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ABSTRACTS

An Evaluation of "Does Economic Inequality Breed Political Conflict?" Studies

By MARK IRVING LICHBACH

Contradictory findings, that economic inequality may have a positive, negative, or no impact on political conflict, are a puzzle for conflict studies. Three approaches have been used to explain the inconsistent findings of the EI-PC (Economic Inequality-Political Conflict) nexus: statistical modeling, formal modeling, and theory building. Because analysts have tended to possess different research skills, these three approaches have been employed in isolation from one another. Singly, however, all three approaches have proved deficient and are unlikely to solve the EI-PC puzzle. The most fruitful approach is to combine the assumptions of the theory builders and the deductive approach of the formal modelers with the various empirical tests of the statistical modelers. Such an approach to the EI-PC puzzle produces a crucial test of the Deprived Actor and Rational Actor theories of conflict. The approach is also our best hope for solving the other long-standing puzzles in conflict studies.

Democratizing the Quasi-Leninist Regime in Taiwan

By TUN-JEN CHENG

Analysis of the process of democratization should focus not on socioeconomic change, but on the origin and development of political opposition and on the structure of political bargaining between the regime and its challengers. The recent democratic breakthrough in Taiwan is attributable to the capabilities of the political opposition in agenda setting, the shifting of bargaining arenas, and the creation of incentives for the reformist leaders of the regime to play the game. Democratization in Taiwan will continue because the ruling party has been able to maintain its dominant position in new political frameworks.

Political Institutions and Tax Policy in the United States, Sweden, and Britain

By SVEN STEINMO

This essay addresses the question, "Why do different democracies pursue different public policies?" through an examination of taxation policy in the United States, Sweden, and Britain. The essay demonstrates how the different decision-making structures found in these three democracies (characterized as pluralist, corporatist, and party government systems, respectively) bias each polity toward different types of policy outcomes. The key argument is that institutional structures are the context in which political actors must necessarily define their policy preferences and determine their strategic objectives. Institutional structures thus provide a central link between individual choice behavior and macro policy outcomes.

Setting Conventional Force Requirements: roughly right or precisely wrong?

By CHARLES A. KUPCHAN

The author analyzes the basic quanititative methodologies employed in the open literature to assess conventional forces and evaluates the extent to which they can be used to set military requirements with a new degree of reliability and accuracy. The recent proliferation of literature on conventional forces has begun to fill an important gap in the strategic studies field. Insufficient understanding of essential elements of ground combat, the context sensitivity of key variables, and inaccurate and unreliable data bases mean, however, that the output of both static and dynamic methodologies contains high levels of uncertainty. This seemingly irreducible uncertainty precludes the use of existing models to make definitive judgment about military needs. Nevertheless, because such uncertainty enhances deterrence, it may not only be unavoidable, but also preferable.

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State and Society in Contemporary China

By ELIZABETH J. PERRY

Recent works on contemporary China stress the importance of the nonmarket economy in shaping a pattern of state-society relations quite unlike those found in capitalist economies. Nevertheless, these studies present strikingly different pictures of the Chinese case: a new, party-dominated, divided, yet compliant network society on the one hand; and an enduring, localistic, solidary, and resistant cellular society on the other. The author suggests that such divergent images may be partially reconciled if local variation (by region and social sector) is systematically incorporated into our models of Chinese politics. Calling for a nuanced and dynamic approach to state-society relations, the article argues for the importance of historically grounded research.

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AN EVALUATION OF "DOES ECONOMIC INEQUALITY BREED POLITICAL CONFLICT?" STUDIES

By MARK IRVING LICHBACH

I. The Problem Defined

WE begin with what Karl Popper called the "problem situation," or the empirical difficulty (generally accepted as crucial), for which theory is supposed to be a solution: Does economic inequality breed political conflict?[1] In other words, are nations with an unequal distribution of income and wealth more subject to phenomena like revolution, rebellion, civil war, terrorism, demonstrations, and coups than those with a more equal distribution?

Most students of conflict would answer yes. All major theorists of conflict believe that economic inequality is, at least, a potentially important cause of dissent.[2] All major cross-national quantitative studies of dissent include economic inequality as an independent variable, or else they acknowledge specification error.[3] Moreover, almost all studies of particular conflicts consider economic inequality to be a potential cause. Economic inequality has been the focus of studies of the Iranian Revolution, the Rhodesian Revolution, and *La Violencia* in Columbia.[4] The Economic Inequality-Political Conflict (EI-PC) puzzle is so central to

[1] Karl J. Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (New York: Harper Torchbooks, 1965).

[2] Ted Robert Gurr, *Why Men Rebel* (Princeton: Princeton University Press, 1970); Charles Tilly, *From Mobilization to Revolution* (Reading, MA: Addison-Wesley, 1978).

[3] Douglas A. Hibbs, Jr., *Mass Political Violence: A Cross-National Causal Analysis* (New York: Wiley, 1973), 196-98.

[4] See Hassan M. Nejad, "Inequality in an Urban Revolution: The Case of Iran"; Clive Kileff and Leland W. Robinson, "The Elitist Thesis and the Rhodesian Revolution: Implications for South Africa"; and Russell R. Hamby, "Coffee and Conflict in Colombia: Spatial, Temporal and Class Patterns of *La Violencia*." All three studies appear in Manus I. Midlarsky, ed., *Inequality and Contemporary Revolutions*, Monograph Series in World Affairs (Denver, CO: Graduate School of International Affairs, University of Denver, 1986).

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conflict studies that an article[5] and a section of a book[6] have been devoted to it.[7]

Why has all this attention been focused on the EI-PC nexus? Conflict studies, after all, must also contend with the conflict puzzles that involve repression, conflict traditions, modernization, external intervention, social cleavages, and political democracy.[8] Why is the EI-PC nexus a crucial problem rather than one of the routine issues? What makes the distribution of income and wealth a theoretically significant explanation of political dissent that warrants close scrutiny? Six factors account for the popularity of this genre of conflict studies.

First, it often appears that the principal political contest and debate in a nation involve a polarization of social groups around distributional issues. Conflict protagonists in a society are often divided into two groups: the challenging groups, i.e., the have-nots or the disadvantaged, who seek economic equality by attacking the status quo distribution of resources; and the established groups, i.e., the haves or the advantaged, who perpetuate economic inequality by defending the status quo distribution of resources. The explicit grievances and demands of such antagonists often involve the distribution of resources in a society. Revolution has thus been defined as both class struggle (Marx) and the circulation of elites (Pareto)—which places EI-PC studies, by definition, at the center of the field.

Second, a little spice is involved: the initial speculation, a strong and positive relationship between economic inequality and political dissent, sometimes, but not always, conflicts with the data. Anomalous, inconsistent, and inconclusive findings provide grist for theoretical and empirical reformulations of the basic EI-PC idea.

Third, a study of the EI-PC nexus leads analysts to consider two other puzzles in conflict studies. Economic inequality is concomitant with social cleavages between classes, religions, regions, generations, and the sexes; between educational and occupational strata; and between linguis-

[5] William J. Linehan, "Political Instability and Economic Inequality: Some Conceptual Clarifications," *Journal of Peace Science* 4 (Spring 1980), 187-98.

[6] Ekkart Zimmerman, *Political Violence, Crises, and Revolutions: Theories and Research* (Cambridge, MA: Schenkman, 1983), esp. 134-39.

[7] There is also a tradition that studies the PC-EI nexus, or how political conflict influences economic inequality. For a formalization, see D. Usher and M. Engineer, "The Distribution of Income in a Despotic Society," *Public Choice* 54, No. 3 (1987), 261-76; for a cross-national empirical analysis, see Robert W. Jackman, *Politics and Social Equality: A Comparative Analysis* (New York: Wiley, 1975): and for a more general consideration of the consequences of revolution for stratification in the postrevolutionary society, the question of "who gets what" from the revolution, see Jonathan Kelly and Herbert S. Klein, *Revolution and the Rebirth of Inequality: A Theory Applied to the National Revolution in Bolivia* (Berkeley: University of California Press, 1981).

[8] See Zimmerman (fn. 6).

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tic, ethnic, and communal groups. The EI-PC puzzle thus leads analysts to consider the social cleavages-political conflict puzzle.[9] Economic inequality is also conjoined with political inequality among the aforementioned groups; the EI-PC puzzle thus also leads analysts to consider the problem of political democracy-political conflict.[10] In sum, the EI-PC puzzle raises the general issue of Inequality-Political Conflict (I-PC).

Fourth, the general issue of inequality has been involved in all major episodes of conflict. The three great ideologies of the late eighteenth, and the nineteenth and twentieth centuries—nationalism, liberalism, and socialism—all spawned revolutionary movements based on ideas of equality, albeit different ones. The rhetoric in the American Revolution was "all men are created equal"; in the French Revolution, partisans shouted "liberty, equality, fraternity"; the propaganda of the Russian Revolution was "peace, land, bread"; and a wartime slogan of the Chinese Revolution was "those who have much give much; those who have little give little." Other upheavals that turned on issues of equality have occurred in American history:

> The demand for equality has lain at the epicenter of the major upheavals that have erupted on the American political scene: the Revolution, the Jacksonian era, the Civil War and Reconstruction, the Populist-Progressive period, the New Deal and the tumultuous 1960's and 1970's.[11]

The general association of inequality with conflict thus appears inevitable and immutable.

Fifth, a study of the EI-PC nexus raises the "big positive questions" in our discipline. EI-PC studies lead analysts to consider the connections between power and conflict, competition and participation, stratification and domination, and exploitation and control which interrelate with such big questions in political science as: Who wins and who loses? Why do people support authority structures? What determines the persistence and change of these institutions? The EI-PC puzzle has thus attracted the attention of some of the great political theorists of all time: Aristotle,[12] Plato, Machiavelli, de Tocqueville, Marx, and Madison. It has also been examined by some of the major figures in contemporary political science: Lipset, Dahl, and Huntington. Quantitative studies are, in fact, very often motivated by citations of these scholars' classic statements of the EI-PC

[9] *Ibid.*, 140-41.

[10] *Ibid.*, 102-5.

[11] Sidney Verba and Gary R. Orren, *Equality in America: The View from the Top* (Cambridge: Harvard University Press, 1985), 21.

[12] Aristotle's views are summarized in Harold T. Davis, *Political Statistics* (Evanston, IL: Principia Press, 1954), 209-10, and in A. S. Cohan, *Theories of Revolution: An Introduction* (New York: Wiley, 1975), 46-50.

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problem.[13] Hence, the EI-PC nexus seems to raise larger theoretical questions than some of the other issues in the field.

Finally, a study of the EI-PC nexus raises the "big normative questions" in our discipline. EI-PC studies implicitly or explicitly lead analysts to consider the great normative tradeoffs that societies face: efficiency for equity, order for justice, or, in the terms of EI-PC studies, income inequality for political conflict. The normative dimension of the EI-PC question, moreover, appeals to scholars across the political spectrum: the left, the right, and the center. The left yearns for distributionally just societies (i.e., equity in terms of economic equality). The right yearns for politically peaceful societies (i.e., efficiency in terms of the absence of political conflict). And the center yearns both for distributionally just and for politically peaceful societies (i.e., equity and efficiency). The EI-PC nexus thus allows all scholars to raise great normative questions in their own way. It is therefore probably the crucial issue in conflict studies. If it could be solved, all the other conflict puzzles would fall into place. A thorough evaluation is therefore long overdue of how researchers have studied the question, "Does economic inequality breed political conflict?"

In the next section, I summarize the numerous competing observations and contending arguments about the EI-PC nexus and describe the three approaches to resolving this indeterminacy. In section three, I evaluate how the statistical modelers have tried to explain these inconsistent results. Their approach is heavily inductive, relying on sifting through masses of evidence with essentially ad hoc reasoning. In section four, I examine how the formal modelers in the field have proceeded. Their approach is heavily deductive, trying to reason from the social processes that generate inequality, to indices of inequality, and finally to conflict behaviors. Both approaches are found to be deficient because they have not illuminated the *assumptions* and *reasoning* that explain *how* and *why* inequality produces conflict. The two major scientific research programs

[13] Bruce M. Russett, "Inequality and Insurgency: The Relation of Land Tenure to Politics," *World Politics* 16 (April 1964), 442-54; Edward J. Mitchell, "Inequality and Insurgency: A Statistical Study of South Vietnam," *World Politics* 20 (April 1968), 421-53; Jack H. Nagel, "Inequality and Discontent: A Nonlinear Hypothesis," *World Politics* 26 (July 1974), 453-72; Lee Sigelman and Miles Simpson, "A Cross-National Test of the Linkage Between Economic Inequality and Political Violence," *Journal of Conflict Resolution* 21 (March 1977), 105-28; Edward N. Muller, "Income Equality, Regime Repressiveness, and Political Violence," *American Sociological Review* 50 (February 1985), 47-61; Manus I. Midlarsky and Kenneth Roberts, "Class, State, and Revolution in Central America: Nicaragua and El Salvador Compared," *Journal of Conflict Resolution* 29 (June 1985), 163-93; Kang Hoon Park, "Income Inequality and Political Violence," in Midlarsky (fn. 4). Also see Kaare Sualastoga, *On Deadly Violence* (Oslo: Universitetsforlaget, 1982), 108-9.

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(SRPs)[14] in conflict studies—the Deprived Actor (DA) and Rational Actor (RA) programs—are built around such assumptions.[15] Hence, in section five, I indicate what these programs imply about the indeterminacy of the EI-PC nexus. A concluding section summarizes my principal criticism of EI-PC studies: because analysts have tended to possess different research skills, the three approaches have been employed in isolation from one another. Singly, however, each of the three has proved deficient and unlikely to solve the EI-PC puzzle. The most fruitful method is to combine the assumptions of the theory builders and the deductive approach of the formal modelers with the various empirical tests of the statistical modelers. Such an approach produces a crucial test of DA and RA theories. I argue further that the flaws of the scientific modus operandi of EI-PC studies are instructive for the entire genre of cross-national quantitative studies in comparative politics.

II. Competing Observations and Arguments

Sociologists are confident that income is correlated with education. Political scientists are confident that party identification is correlated with voting behavior. And economists are confident that the price of butter is correlated with the quantity of butter bought. Once these "stylized facts" exist, sociologists, political scientists, and economists suggest assumptions for research programs and then spin theories to explain the less well-known aspects of the empirical world. We should therefore begin by establishing what is known about the EI-PC nexus. After more than two decades of empirical research, what are students of conflict certain is true about the EI-PC nexus?

So much systematic quantitative evidence has been adduced in order to discover the "true" relationship between economic inequality and political conflict that I have been able to locate forty-three aggregate quantitative studies, within nations and cross-national, of the EI-PC nexus.[16]

[14] Imre Lakatos, "Falsification and the Methodology of Scientific Research Programs," in Imre Lakatos and Alan Musgrave, eds., *Criticism and the Growth of Knowledge* (Cambridge: Cambridge University Press, 1974).

[15] Related distinctions have been made by David Snyder, "Collective Violence: A Research Agenda and Some Strategic Considerations," *Journal of Conflict Resolution* 22 (September 1978), 499-534, who distinguished between "resource mobilization" and "relative deprivation" approaches; and by Harry Eckstein, "Theoretical Approaches to Explaining Collective Political Violence," in Ted Robert Gurr, ed., *Handbook of Political Conflict: Theory and Practice* (New York: Free Press, 1980), who distinguished between "contingency" and "inherency" approaches.

[16] This review is limited to macro-level studies. I shall return to this limitation in the conclusion.

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Some of them are perhaps best forgotten. I will, however, examine this literature in some detail for two reasons. First, the evidence behind various EI-PC propositions comes from studies of many different conflicts that have been conducted by sociologists and political scientists. I wish to show that many analysts of the EI-PC problem have recognized only a portion of the relevant literature. For example, students of black protest in the United States and of conflict cross-nationally have both been concerned with the EI-PC nexus, yet both have neglected each other's work. Second, the *reasoning* behind various EI-PC propositions—*how* and *why* economic inequality breeds political conflict—has typically been neglected. I intend to examine the state of the argument as well as the state of the evidence.

The following general hypothesis is proposed:

$$C = F(I)$$

where C is political conflict, I is economic inequality, and F is a functional relationship. Ad hoc arguments and evidence exist for all conceivable forms of the relationship between economic inequality and political conflict.[17]

One expectation is that economic inequality *increases* political dissent, or that $F' > 0$. The reasoning behind this position may be summarized as follows. When economic inequality is high, (1) the poor are envious, have nothing to lose, and thus resort to force (e.g., political violence) to achieve redistributive demands; (2) the rich are greedy, have everything to lose, and possess the resources necessary to use force (e.g., governmental repression) to avoid giving in to redistributive demands; and (3) the middle class, which respects property rights, is small. Hence, as economic inequality increases, the pool of conflict participants (both the rich and the poor) increases. A great variety of evidence supports this position. Cross-national evidence from a global sample of states has been provided by many scholars.[18] Mitchell reported positive results for the Philippines,[19]

[17] Of all these studies, only Manoucher Parvin's "Economic Determinants of Political Unrest: An Econometric Approach," *Journal of Conflict Resolution* 17 (June 1973), 271-96, bothered to predict the magnitude of the EI-PC relationship, namely the elasticity of the parameter estimate.

[18] See Russett (fn. 13); Raymond Tanter and Manus I. Midlarsky, "A Theory of Revolution," *Journal of Conflict Resolution* 11 (September 1967), 264-80; Roy L. Prosterman, "IRI: A Simplified Predictive Index of Rural Instability," *Comparative Politics* 8 (April 1976), 339-53; Jack H. Nagel, "Erratum," *World Politics* 28 (January 1976), 315; Sigelman and Simpson (fn. 13); Park (fn. 13).

[19] Edward J. Mitchell, "Some Econometrics of the Huk Rebellion," *American Political Science Review* 63 (December 1969), 1159-71.

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Paranzino for South Vietnam,[20] and Morgan and Clark for the United States.[21] Gurr has shown cross-nationally[22] and Barrows has shown for Africa[23] that economic discrimination is positively associated with strife.

A more forceful prediction along these lines is that $F'>0, F''>0$. Muller's reasoning behind this position is as follows:

> If the mobilization of discontent is correlated with the extensiveness of inequality, such that when inequality is pervasive some mobilization is almost bound to occur, then the relationship between inequality and political violence should be positive and curvilinear, i.e., *positively accelerated*.[24]

There are two additional arguments predicting that the EI-PC relationship will be quite strong. Tocqueville's "dread" of "the insistent and immediate demand for equality in our lives"[25] implies a strong EI-PC relationship: the spread of norms of equality makes invidious comparisons universal and all forms of subordination illegitimate. This will spur the universal, permanent, inevitable, and irresistible revolution of emancipatory movements among the disadvantaged. The ecosystem perspective on political conflict, which sees the constraints of the socioeconomic environment as inevitably leading to limits to growth and hence competition for scarce resources, also implies a strong EI-PC relationship.[26] Muller found that an exponential function, which supports this reasoning, fit his cross-national data.[27]

The counterexpectation is that economic inequality *decreases* political dissent, or that $F'<0$. One reason behind this position is that high levels of economic inequality are associated with powerful elites. These "haves" will be willing and able to use social, economic, and political power to

[20] Dennis Paranzino, "Inequality and Insurgency in Vietnam: A Further Re-analysis," *World Politics* 24 (July 1972), 565-78.

[21] William R. Morgan and Terry Nichols Clark, "The Causes of Racial Disorders: A Grievance-Level Explanation," *American Sociological Review* 38 (October 1973), 611-24.

[22] Ted Robert Gurr, "A Causal Model of Civil Strife: A Comparative Analysis Using New Indices," *American Political Science Review* 62 (December 1968), 1104-24; Ted Robert Gurr and Raymond Duvall, "Civil Conflict in the 1960's: A Reciprocal Theoretical System with Parameter Estimates," *Comparative Political Studies* 6 (July 1973), 135-69; Ted Robert Gurr and Mark Irving Lichbach, "Forecasting Domestic Political Conflict," in J. David Singer and Michael D. Wallace, eds., *To Augur Well: Early Warning Indicators in World Politics* (Beverly Hills, CA: Sage, 1979).

[23] Walter L. Barrows, "Ethnic Diversity and Political Instability in Black Africa," *Comparative Political Studies* 9 (July 1976), 139-70.

[24] Muller (fn. 13), 53.

[25] Quoted in Douglas W. Rae et al., *Equalities* (Cambridge: Harvard University Press, 1981), 1.

[26] William Ophuls, *Ecology and the Politics of Scarcity* (San Francisco: W. H. Freeman, 1977); Kenneth E. Boulding, *Ecodynamics: A New Theory of Societal Evolution* (Beverly Hills, CA: Sage, 1978); Dennis C. Pirages, "Political Stability and Conflict Management," in Gurr (fn. 15).

[27] Muller (fn. 13).

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repress, and hence hold down, political dissent. Moral outrage, in other words, is more likely to be suppressed than expressed.[28] Another justification for this position lies in the social comparison processes of human beings. As Samuel Johnson said, "it is better that some should be unhappy, than that none should be happy, which would be the case in a general state of equality."[29] In other words, under moderate economic inequality, some are unhappy; but under pure economic equality, everyone is unhappy. This position was common to the nineteenth-century conservative political thought of Burke, Bonald, and others. Conservatives held, as Nisbet has indicated, that equality leads to conflict as part of the general social dislocations produced by modern society:

> However democratic society becomes, it will never seem democratic enough, the sense of relative undemocracy will incessantly enlarge. However, broad and popular the base of political power, the sense of relative powerlessness will only spread. No matter how equal men become in rights and opportunity, the sense of relative inequality will grow and fester.[30]

Evidence to support this expectation is also presented by Mitchell and by Parvin.[31]

Since arguments and evidence have been offered for the existence of both a direct and an inverse relationship between inequality and dissent, it is not surprising that researchers have tried to resolve the contradiction. Thus Davis has suggested a convex (U-shaped) relationship, $F'<0$ and $F''>0$.[32] The view that political violence will occur most frequently at either very low or very high levels of economic inequality, and least frequently at intermediate levels, is also offered, interestingly, by two economists. Havrilesky supported this position as follows:

> It is reasonable to assume that a discordance-minimizing distribution of income exists at some positive level of discordance and that a perceived change in the distribution away from this minimum toward either of the extremes of equality or inequality will generate increased discordance.[33]

Similarly, Parvin argued

> It is therefore more reasonable to assume that an optimum level of income inequality exists for any level of per capita income. Subsequently, beyond this optimum level, the net effect of further redistribution of income to-

[28] Barrington Moore, Jr., *Injustice: The Social Bases of Obedience and Revolt* (White Plains, NY: M. E. Sharpe, 1978).
[29] Quoted in Verba and Orren (fn. 11), xiv.
[30] Robert A. Nisbet, *Tradition and Revolt* (New York: Random House, 1968), 76-77.
[31] Mitchell (fn. 13); Parvin (fn. 17).
[32] Davis (fn. 12).
[33] Thomas Havrilesky, "The Discordance-Inequality Tradeoff," *Public Choice* 35, No. 3 (1980), 371-77, at 371.

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> ward more or less equality may imply increasing, not decreasing, political unrest.[34]

Kort offered a better explanation of why a convex relationship might hold, by speculating about the behavioral motivations of the key actors, the rich and the poor:

> When a critically high concentration of income prevails in a society, a revolution [i.e., disturbance initiated by the underprivileged minority] is likely to occur . . . when income is dispersed beyond a certain critical minimum of concentration a civil war [i.e., disturbance initiated by a privileged minority] is likely to take place.[35]

No direct tests of this formulation have been made.

Others have attempted to resolve the contradiction between the positive and inverse formulations of the EI-PC nexus in exactly the opposite manner. Thus, Nagel has suggested a concave (inverted U-shaped) relationship, $F'>0, F''<0$. Political violence will occur most frequently at intermediate levels of economic inequality, least frequently at very low or very high levels. Nagel's reasoning is that while the "grievances resulting from comparisons" increase, the "tendency to compare" decreases with the level of economic inequality. Given certain assumptions, it can be demonstrated that the resulting cumulative effects are concave. Nagel found supporting evidence in South Vietnam, falsifying evidence globally;[36] Sigelman and Simpson's cross-national test gave no support to this formulation.[37]

Finally, perhaps in exasperation, others have suggested that $F' = 0$, or that inequality is irrelevant to dissent. This expectation results from the belief that other variables (e.g., absolute poverty, social comparison processes, mobilization processes) are the deciding factors. Another reason is that economic inequality changes very gradually over time while political conflict changes erratically; it is therefore held unlikely that a strong and direct EI-PC relationship exists. A great variety of evidence also supports this position. Cross-national evidence from a global sample of states comes from Parvin, Nagel, Hardy, and Weede.[38] Duff and McCamant

[34] Parvin (fn. 17), 281.

[35] Fred Kort, "The Quantification of Aristotle's Theory of Revolution," *American Political Science Review* 46 (June 1952), 486-93, at 491.

[36] Nagel (fn. 13).

[37] Sigelman and Simpson (fn. 13), 119.

[38] Parvin (fn. 17); Nagel (fn. 13); Melissa A. Hardy, "Economic Growth, Distributional Inequality, and Political Conflict in Industrial Societies," *Journal of Political and Military Sociology* 7 (Fall 1979), 209-27; Erich Weede, "Income Inequality, Average Income, and Domestic Violence," *Journal of Conflict Resolution* 25 (December 1981), 639-54; Erich Weede, "Some New Evidence on Correlates of Political Violence; Income Inequality, Regime Repressiveness, and Economic Development," *European Sociological Review* 3 (September 1987), 97-108.

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provide cross-national evidence from Latin America,[39] Powell from Western-style democracies.[40] Russo's evidence from South Vietnam,[41] and McAdam's and Spilerman's evidence from black rioting in the United States[42] also support this position.

In sum, two decades of empirical research in conflict studies have challenged the conventionally accepted view that a strong positive relationship exists between economic inequality and political conflict. EI-PC studies have produced an equivocal answer about the EI-PC nexus. While numerous analyses purport to show that economic inequality has a positive impact on political dissent, others purport to show negative and negligible relationships. Midlarsky has stated that "rarely is there a robust relationship discovered between the two variables. Equally rarely does the relationship plunge into the depths of the black hole of nonsignificance."[43]

This diverse and contradictory array of findings has baffled and intrigued investigators. Hence, Midlarsky suggests that we locate *many* theories that are "context-specific,"[44] Mitchell that we have "*two* contrary theories of rebellion, each with some basis in fact,"[45] and Zimmerman offers so many qualifications to the EI-PC nexus that he implies that we might have *no* theories at all here![46]

Why have EI-PC studies produced contradictory results? As Dina Zinnes wrote in a review of quantitative studies of external war, "I find myself perplexed: why do tests of the same hypothesis using different data, research designs, and methodologies appear to produce such dramatically different conclusions . . . ?"[47] In the next three sections of this paper, I will examine the three types of approaches to resolving the indeterminacy in the linkage between economic inequality and political conflict that have appeared in the literature: statistical modeling, formal modeling, and theory building.

[39] Ernest A. Duff and John F. McCamant, *Violence and Repression in Latin America: A Quantitative and Historical Analysis* (New York: Free Press, 1976), 83.

[40] G. Bingham Powell, Jr., *Contemporary Democracies: Participation, Stability, and Violence* (Cambridge: Harvard University Press, 1982), 47-51.

[41] Anthony J. Russo, Jr., "Economic and Social Correlates of Government Control in South Vietnam," in Ivo K. Feierabend, Rosalind L. Feierabend, and Ted Robert Gurr, eds., *Anger, Violence and Politics: Theories and Research* (Englewood Cliffs, NJ: Prentice-Hall, 1972).

[42] Doug McAdam, *Political Process and the Development of Black Insurgency, 1930-1970* (Chicago, IL: University of Chicago Press, 1982); Seymour Spilerman, "The Causes of Racial Disturbances: Tests of an Explanation," *American Sociological Review* 36 (June 1971), 427-42.

[43] Manus I. Midlarsky, "Rulers and the Ruled: Patterned Inequality and the Onset of Mass Political Violence," *American Political Science Review* 82 (June 1988), 492-509, at 492.

[44] *Ibid.*, 1.

[45] Mitchell (fn. 13), 422; emphasis added.

[46] Zimmerman (fn. 6).

[47] Dina A. Zinnes, *Contemporary Research in International Relations: A Perspective and a Critical Appraisal* (New York: Free Press, 1976), 212.

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III. The Statistical Modelers

The statistical modelers have argued that the contradictory EI-PC results are due to variations among EI-PC studies in all aspects of research design. This group of researchers has thus focused on the intricacies of previous empirical tests and suggested that the different EI-PC conclusions arise from alternative definitions of economic inequality and of political conflict, and from the different cases explored, the various time frames in which the effects on conflict are examined, and different ceteris paribus understandings about the context in which the EI-PC relationship occurs.

There is much variation in the measurement of the independent variable "economic inequality" by the statistical modelers of the EI-PC nexus. This is because both the normative conceptualization[48] and statistical measurement[49] of economic inequality involves so many competing requirements that the hope for a single, universally agreed upon index of relative economic equality or inequality is doomed. There are thus many answers to the question: How do you assess the concentration in a distribution of resources? Measures of the inequality in a distribution are, moreover, similar to measures of the homogeneity in a distribution.[50] Researchers have used the Gini index and its relatives, several stochastic distributions, the size of various income shares (e.g., the upper quintile), ratios of poverty to affluence, and minimum welfare and "basic needs" (e.g., percentage below the poverty line, percentage with substandard health, food, shelter, clothing).[51]

The variation in the measurement of economic inequality also occurs, in part, because there are many answers to the question: inequality of

[48] Raymond Duvall, "Issues in the Theory and Assessment of Social Inequality," in John D. Grove, ed., *Global Inequality: Political and Socioeconomic Perspectives* (Boulder, CO: Westview, 1979); Rae et al. (fn. 25).

[49] Hayward Alker, Jr., and Bruce M. Russett, "Indices for Comparing Inequality," in Richard L. Merritt and Stein Rokkan, eds., *Comparing Nations: The Use of Quantitative Data In Cross-National Research* (New Haven: Yale University Press, 1966); Anthony B. Atkinson, "On the Measurement of Inequality," *Journal of Economic Theory* 2 (September 1970), 244-63; James Lee Ray and J. David Singer, "Measuring Concentration of Power," *Sociological Methods and Research* 1 (May 1973), 404-37; Paul D. Allison, "Measures of Inequality," *American Sociological Review* 43 (December 1978), 865-80; Michael Don Ward, *The Political Economy of Distribution: Equality versus Inequality* (New York: Elsevier, 1978); Bruce M. Russett et al., "Health and Population Patterns as Indicators of Income Inequality," *Economic Development and Cultural Change* 29 (July 1981), 759-79; Philip B. Coulter, "Distinguishing Inequality and Concentration: The Exponentiation Principle," *Political Methodology* 10, No. 3 (1984), 323-35; S. M. Ravi Kanbur, "The Measurement and Decomposition of Inequality and Poverty," in F. Van Der Ploeg, ed., *Mathematical Methods in Economics* (New York: Wiley, 1984); D. John Grove and Robert Hannum, "On Measuring Intergroup Inequality, " *Sociological Methods and Research* 15 (August-November 1986), 142-59.

[50] Douglas W. Rae and Michael Taylor, *The Analysis of Political Cleavages* (New Haven, CT: Yale University Press, 1970).

[51] Park (fn. 13).

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what aspect of economics? One domain of economic inequality relates to land: landlessness, tenancy, land redistribution, size of farms, and the percentage of land that is owner occupied have all been employed. Prosterman, for example, constructed an "IRI"—Index of Rural Instability—based on the percentage of peasants that might, depending on the rural stratification system, be referred to as "landless."[52] Another domain relates to inequality of income. The variations that have appeared here involve whether the income distribution is adjusted for sectors, households, or individuals; whether pre- or post-tax incomes are used; and whether comparisons relate to economically active males or the whole population. Another domain relates to differential economic conditions faced by groups. Ford and Moore, Jiobu, Spilerman, and McElroy and Singell constructed various measures of black/white "relative deprivation" or "stratification differentials" using ratios of black/white educational achievement, income levels, home ownership, occupational status, unemployment rates, and numbers living below the poverty line.[53] A final domain relates to inequality of economic treatment by government: Gurr constructed indices of economic discrimination;[54] Eisinger used the proportional representation of Blacks in city councils;[55] Barrows constructed an index of "ethnic group inequality" based on "the size of ethnic groups and their share of political power and/or other values of wealth, education, and the like";[56] Lieske gauged "institutional discrimination" via white/nonwhite police and teacher ratios;[57] and Havrilesky used public expenditures oriented toward redistribution.[58]

The variation in the measurement of economic inequality also occurs because there are many answers to the question, "Who is to be economically equal to whom?"[59] When there are several groups in a nation, the subject class of economic equality is no longer straightforward. A final

[52] Prosterman (fn. 18), at fn. 3 on 349.

[53] William Freithaler Ford and John H. Moore, "Additional Evidence on the Social Characteristics of Riot Cities," *Social Science Quarterly* 51 (September 1970), 339-48; Robert M. Jiobu, "City Characteristics, Differential Stratification, and the Occurrence of Interracial Violence," *Social Science Quarterly* 52 (December 1971), 508-20; Spilerman (fn. 42); Seymour Spilerman, "Structural Characteristics of Cities and the Severity of Racial Disorders," *American Sociological Review* 41 (October 1976), 771-93; Jerome L. McElroy and Larry D. Singell, "Riot and Nonriot Cities: An Examination of Structural Contours," *Urban Affairs Quarterly* 8 (March 1973), 281-302.

[54] Gurr (fn. 22).

[55] Peter K. Eisinger, "The Conditions of Protest Behavior in American Cities," *American Political Science Review* 67 (March 1973), 11-28.

[56] Barrows (fn. 23), 154-55.

[57] Joel A. Lieske, "The Conditions of Racial Violence in American Cities: A Developmental Synthesis," *American Political Science Review* 72 (December 1978), 1324-40.

[58] Havrilesky (fn. 33).

[59] Rae et al. (fn. 25), 20.

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cause of the variation in the measurement of economic inequality is that it is often part of complicated indices, making interpretation, if one rejects the author's conceptual framework, impossible. Ruhl, for example, included "land tenure inequality" as part of a "satisfaction index"[60] and Geller included the Gini measure as part of a "persisting deprivation" index.[61]

There is also much variation in the measurement of the dependent variable "political conflict" by the statistical modelers of the EI-PC nexus. In fact, almost all aspects of political performance[62] or governability have been employed. The most frequently mentioned component is manifest political dissent. Most[63] have used a measure of the deaths from all types of dissent constructed from the *World Handbook* series.[64] But many specific forms of dissent have also been employed: Russett used Eckstein's 1946-1961 measures of internal war;[65] Hardy used Russett and his coauthors' measures of riots, armed attacks, and political strikes;[66] Gurr used his own measures of turmoil, conspiracy, and internal war, and of protest and rebellion;[67] Barrows used Morrison and Stevenson's measures of elite instability, communal instability, and turmoil;[68] Ruhl used Bwy's measure of guerrilla wars;[69] Sigelman and Simpson used Hibbs' composite measure of "internal war";[70] Midlarsky used a measure of revolutionary civil war constructed from Singer and Small's data;[71] and Morgan and Clark, Spilerman, and McAdam used measures of the severity of black rioting in U.S. cities.[72] Some have tapped odd properties of dissent. San-

[60] Mark J. Ruhl, "Social Mobilization and Political Instability in Latin America: A Test of Huntington's Theory," *Inter-American Economic Affairs* 29 (Summer 1975), 3-21, at 10.

[61] Daniel S. Geller, "Modeling the Conflict Patterns of Nations," in J. David Singer and Richard J. Stoll, eds., *Quantitative Indicators in World Politics: Timely Assurance and Early Warning* (New York: Praeger, 1984).

[62] See Harry Eckstein and Ted Robert Gurr, *Patterns of Authority: A Structural Basis for Political Inquiry* (New York: Wiley, 1975).

[63] Russett (fn. 13); Parvin (fn. 17); Hardy (fn. 38); Weede (fn. 38, 1981); Muller (fn. 13); Park (fn. 13); Edward N. Muller and Mitchell A. Seligson, "Inequality and Insurgency," *American Political Science Review* 81 (June 1987), 425-51.

[64] Bruce M. Russett et al., *World Handbook of Political and Social Indicators* (New Haven, CT: Yale University Press, 1964); Charles Lewis Taylor and Michael C. Hudson, *World Handbook of Political and Social Indicators*, 2d ed. (New Haven, CT: Yale University Press, 1972); Charles Lewis Taylor and David C. Jodice, *The World Handbook of Political and Social Indicators*, 3d ed. (New Haven, CT: Yale University Press, 1983).

[65] Russett (fn. 13).

[66] Hardy (fn. 38).

[67] Gurr (fn. 22).

[68] Barrows (fn. 23).

[69] Ruhl (fn. 60).

[70] Sigelman and Simpson (fn. 13).

[71] Manus I. Midlarsky, "The Revolutionary Transformation of Foreign Policy: Agrarianism and Its International Impact," in Charles W. Kegley and Pat McGowan, eds., *The Political Economy of Foreign Policy Behavior* (Beverly Hills, CA: Sage, 1981).

[72] Morgan and Clark (fn. 21); Spilerman (fn. 42); McAdam (fn. 42).

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ders, for example, used "instability" related to regime change, violent change, government change, and peaceful challenges,[73] while Ziegenhagen used the "variety" of types of dissent that appear in a dissent episode.[74] And some have tapped the government side of dissent. Hence, government control of villages was used by Mitchell for South Vietnam[75] and for the Philippines,[76] while Duff and McCamant used government repression.[77]

The second aspect of political performance that has been tapped is governmental legitimacy. This was done by Havrilesky, who used the percentage of those polled who supported the government,[78] and by Powell, who used voter turnout.[79] Third, some have assessed the durability of patterns of authority maintenance. For example, the tenure of the chief executive has been used by Russett[80] and Powell,[81] and government crises by Ruhl.[82] Finally, some have assessed the durability of government institutions. Thus, Russett used Lipset's measure of "democratic stability,"[83] and Tanter and Midlarsky used Rummel's measure of "successful revolution."[84]

The cases sampled by statistical modelers in EI-PC studies have also varied greatly. Cross-national researchers have employed, in addition to a global sample of states, Western, Latin American, Middle Eastern, and African samples of states.[85] Internal analyses of cities in the United States and provinces in South Vietnam and the Philippines have also been made.

The time frames employed by the statistical modelers of the EI-PC nexus have also varied greatly. Data have been sampled from the 1950s, 1960s, and 1970s. Researchers have used no lags and one- to ten-year lags. And data aggregations of between one and ten years have been employed.

The final aspect of research design in statistical models of the EI-PC nexus that has varied is control variables. Authors working in the statistical modeling tradition have stumbled upon all the causes of conflict

[73] David Sanders, *Patterns of Political Instability* (New York: St. Martin's Press, 1981).
[74] Eduard A. Ziegenhagen, *The Regulation of Political Conflict* (New York: Praeger, 1986).
[75] Mitchell (fn. 13).
[76] Mitchell (fn. 19).
[77] Duff and McCamant (fn. 39).
[78] Havrilesky (fn. 33).
[79] Powell (fn. 40).
[80] Russett (fn. 13).
[81] Powell (fn. 40).
[82] Ruhl (fn. 60).
[83] Russett (fn. 13).
[84] Tanter and Midlarsky (fn. 18).
[85] Powell (fn. 40); Duff and McCamant (fn. 39); Midlarsky (fn. 43); and Barrows (fn. 23), respectively.

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mentioned in the theoretical literature: income, social mobility, repression, democracy, and dissident organizations.

Income. Many have believed that an important factor affecting the EI-PC nexus is "the level at which equality is to be attained."[86] According to Russett,

> Extreme inequality of land distribution leads to political instability only in those poor, predominantly agricultural societies where limitation to a small plot of land almost unavoidably condemns one to poverty. In a rich country, the modest increase a farm can produce from even a small holding may satisfy him.[87]

Similarly, in Huntington's view,

> Where the conditions of land-ownership are equitable and provide a viable living for the peasant, revolution is unlikely. Where they are inequitable and where the peasant lives in poverty and suffering, revolution is likely, if not inevitable, unless the government takes prompt measures to remedy these conditions.[88]

Sigelman and Simpson also argued that

> It seems possible, for example, that the political implications of inequality may vary dramatically from impoverished to affluent nations. Low absolute levels of wealth could aggravate the frustrations engendered by inequality, while affluence might offset these frustrations. That is, the likelihood of violence may depend not only on the manner in which wealth is distributed, but also on the amount of wealth available for distribution.[89]

Zimmerman has specifically made the argument that economic development confuses the EI-PC nexus:

> Inequality should be curvilinearly related to economic development, reaching its peak at a mid-level of development. . . . The interrelationships between these two independent variables used in explaining political violence may account for inequality not showing the predicted relationship.[90]

The level and rate of change of economic development has therefore been used by Parvin, Muller, and Muller and Seligson in statistical models of the EI-PC nexus.[91]

[86] Rae et al. (fn. 25), 128.
[87] Russett (fn. 13), 452.
[88] Samuel P. Huntington, *Political Order in Changing Societies* (New Haven, CT: Yale University Press, 1968), 375.
[89] Sigelman and Simpson (fn. 13), 108-9.
[90] Zimmerman (fn. 6), 137.
[91] Parvin (fn. 17); Muller (fn. 13); Muller and Seligson (fn. 63).

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Social Mobility. Some have believed that social mobility significantly affects the EI-PC nexus. Sigelman and Simpson suggested that

> The impoverished masses in a highly stratified system may be less frustrated if there is a meaningful chance for them to improve their lot within the foreseeable future. Alternatively, rapid social mobility might prove to be profoundly destabilizing if a socioeconomic elite, perceiving that its position is in jeopardy, takes preemptive action to defend itself.[92]

Similarly, Weede argued that

> If there is a reasonable chance for upward mobility, potential challengers to the existing social order and size distribution of income might prefer to change their positions within the social structure rather than change the social structure itself.[93]

Repression. What the government does and does not do about economic inequality has been seen by many as crucial to the EI-PC nexus. Economic inequality may be caused or codified by government action such as political, economic, and group discrimination.[94] Government accommodation may also preclude dissent and redress grievances about economic inequality.[95] Alternatively, government repression may prevent economic inequality from turning into violence if "the repressive measures of the authorities are efficient to keep down any protests."[96]

Democracy. Two aspects of government structure have been seen as crucial to the EI-PC nexus because they influence government policy responses to economic inequality. First, the democratic or autocratic nature of the state, or the distribution of political power, is crucial: nonviolent participation by the poor may bring state action and thus render violent participation by the poor unnecessary. Second, patterns of class-state relations influence the autonomous or instrumental nature of government[97] and hence might also be related to policy measures.

Dissident Organizations. Finally, many have considered the atomization/organization of dissidents to be a crucial factor affecting the EI-PC nexus. Several variables affecting the strength of conflict organizations, such as leadership, coalitions with powerful actors (e.g., the Church), conflict traditions (i.e., previous political violence), modeling on and prox-

[92] Sigelman and Simpson (fn. 13), 109.
[93] Weede (fn. 38, 1981), 640.
[94] Gurr (fn. 2).
[95] Barrows (fn. 23), 166.
[96] Zimmerman (fn. 6), 135.
[97] Midlarsky and Roberts (fn. 13); Kenneth Roberts and Manus I. Midlarsky, "Inequality, the State, and Revolution in Central America," in Midlarsky (fn. 4).

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imity to other revolutionary movements, and foreign military assistance have all been discussed. Moreover, many aspects of social structure affect the organizational strength of the poor and other dissident groups. Population[98] and population growth[99] have been mentioned. The size of the agricultural labor force has been discussed by those specifically concerned with land inequality: "The issue of land reform will be salient only if inequality is high *and* the proportion of the labor force employed in agriculture is large."[100] Some have mentioned class structures, class coalitions, sociocultural heterogeneity, and the relationship between economic and other cleavages. Sigelman and Simpson, for example, argued that

> Beyond its direct impact, sociocultural heterogeneity may, much in the fashion of low absolute levels of national wealth, aggravate the frustrations induced by inequality; or, in a far different manner, *if* it cuts across rather than reinforces the economic stratification system, sociocultural heterogeneity may actually moderate the destabilizing impact of inequality.[101]

Those concerned with inequality in land have also pointed to the importance of types of agricultural organization, patterns of rural class relations, rural stratification systems, agrarian property rights, and vertical and horizontal ties between lord and peasant.[102] Finally, social mobilization, in terms of increased communications and transportation networks, has been seen to increase communications between and hence the dissident potential of aggrieved groups.[103]

What is to be made of this approach to studying the EI-PC nexus? Producing one more empirical variation of the EI-PC argument in an effort to clarify the confusion created by previous variations has been a source and not a remedy of the confusion. This is because statistical models of the EI-PC nexus sought generalizations, but, in fact, were ad hoc, or appropriate for "this case only," in two senses.[104]

First, the results were not robust between studies. In one case, an author replicated his own work.[105] Many have replicated the work of others: Paige, Paranzino, Russo, and Nagel all replicated Mitchell;[106] Hardy rep-

[98] Parvin (fn. 17); Hardy (fn. 38).

[99] Manus I. Midlarsky, "Scarcity and Inequality: Prologue to the Onset of Mass Revolution," *Journal of Conflict Resolution* 26 (March 1982), 3-28.

[100] Muller and Seligson (fn. 63), 431.

[101] Sigelman and Simpson (fn. 13), 109.

[102] Jeffrey M. Paige, "Inequality and Insurgency in Vietnam: A Re-analysis," *World Politics* 23 (October 1970), 24-37; Jeffrey M. Paige, *Agrarian Revolution: Social Movements and Export Agriculture in the Underdeveloped World* (New York: Free Press, 1975).

[103] Huntington (fn. 88), 58-59; Parvin (fn. 17).

[104] Zinnes (fn. 47), 112.

[105] Nagel (fn. 18).

[106] Paige (fn. 102, 1970); Paranzino (fn. 20); Russo (fn. 41); Nagel (fn. 13); Mitchell (fn. 13).

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licated Sigelman and Simpson;[107] and Weede replicated Muller.[108] These replications have revealed that the EI-PC nexus is very sensitive to all the aspects of research design mentioned earlier: measurement, the inclusion of cases, time frames, and the specification of control variables.

In consequence, EI-PC statistical studies have been ad hoc because they were unsuccessful: robust EI-PC laws have not been discovered. Researchers have been unable to locate empirical generalizations applicable across studies because the replications and regression experiments produced inconsistency, not consistency. The lack of agreement among studies using the *same* data does not inspire confidence in the possible existence of an EI-PC law or laws.

Second, statistical models of the EI-PC nexus were ad hoc because explanation of the EI-PC nexus was not achieved. This was because statistical modelers deliberately eschewed explanation, implicitly avoided explanation, or produced a flawed explanation.

A few statistical modelers have explicitly stated that they did not seek an explanation. For example, Hardy wrote that "the hypotheses tested are of a straightforward macrostructural cross-sectional sort, and no attempt has been made to fill in the logic of an argument of social psychological processes or of other causal processes."[109] Muller argued that "the *macro* hypotheses of a positive relationship between economic inequality and political violence should not be interpreted as *necessarily* corresponding to any particular *micro* theory of the kind of discontent that might motivate individuals to participate in rebellious political behavior."[110] Weede thus acknowledged "the rather weak correspondence between micro-explanations of why men rebel and macro-relationships between inequality and violence."[111]

Most statistical modelers have implicitly avoided explanation. In other words, most have never examined the *assumptions* and *reasoning* behind the EI-PC nexus: *how* and *why* does economic inequality influence political conflict? Most statistical modelers have thus not tried to "explain" the EI-PC nexus in the sense of deriving it from a set of premises. In consequence, they have not revealed their hidden assumptions about how economic inequality leads to political conflict. The short rationales for the various EI-PC positions discussed earlier are all most statistical modelers have ever

For a critique that led to many of the replications, see Robert L. Sansom, *The Economics of Insurgency: In the Mekong Delta of Vietnam* (Cambridge, MA: MIT Press, 1970), 230-32.

[107] Hardy (fn. 38), 224; Sigelman and Simpson (fn. 13).

[108] Erich Weede, "Comment," *American Sociological Review* 51 (June 1986), 438-41; Muller (fn. 13); also see Edward N. Muller, "Reply," *American Sociological Review* 51 (June 1986), 441-45.

[109] Hardy (fn. 38), 212.

[110] Muller (fn. 13), 52, emphasis in original.

[111] Weede (fn. 38, 1987), 98.

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given us. Even these justifications of EI-PC hypotheses are sometimes neglected as researchers plunge into empirical work. One must conclude that, to most statistical modelers, "theory" is nothing more than a set of weakly linked empirical generalizations, or behavioral or regression equations, justified by an informal and ad hoc discussion of the expected signs of the variables.[112]

This lack of theory and explanation is a fatal flaw of statistical models of the EI-PC nexus. Since there are no EI-PC laws derived from general statements using formal reasoning, there is no logical justification for any EI-PC generalization. Particular EI-PC hypotheses are ad hoc; they are merely asserted rather than, as required for true understanding, ultimately derived from more basic axioms. Unless an EI-PC proposition follows from a set of more illuminating assumptions, readers are left wondering (a) why the author believes the proposition is worthy of testing, (b) if the proposition turns out to be true, why this should be so, and (c) if the proposition turns out to be false, why it was not true. Given that almost all statistical models of the EI-PC nexus lacked a convincing microfoundation of assumptions, such models could only have been descriptive and not explanatory—and, as indicated, it turned out that they were not very good at description either!

This crucial point is perhaps best emphasized by citing three quotations. Eckstein,[113] commenting on Hibbs'[114] statistical models, put the point bluntly: "positive and negative factors run amok." Moon put the issue in philosophy of science terms:

> There is a tendency in such cases to generate a series of studies which, to use Lakatos's terminology . . . are "progressive" in the sense that later studies contain more corroborated empirical content than earlier ones. But these studies do not develop out of a well-articulated research program, and so they do not provide greater coherence or lend a more systematic character to our knowledge of a subject.[115]

And Hermann Hesse, in *Journey to the East*, put the idea poetically:

> Instead of a fabric, I hold in my hand a bundle of a thousand knotted threads, which would occupy hundreds of hands for years to disentangle and straighten out, even if every thread did not become terribly brittle and break between the fingers as soon as it is handled and gently drawn (p. 47).

[112] For an excellent collection of alternative approaches to "theory," see Frederick Suppe, ed., *The Structure of Scientific Theories*, 2d ed. (Urbana: University of Illinois Press, 1977).

[113] Eckstein (fn. 15).

[114] Hibbs (fn. 3).

[115] J. Donald Moon, "The Logic of Political Inquiry: A Synthesis of Opposed Perspectives," in Fred I. Greenstein and Nelson W. Polsby, eds., *Handbook of Political Science*, Vol. 1, *Political Science, Scope and Theory* (Reading, MA: Addison-Wesley, 1975), 194.

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If most statistical modelers did not seek to "explain" the process that generates the EI-PC connection, then what did they want their statistical models to accomplish? The relevant question to most statistical modelers was not "*Why* does economic inequality breed political conflict?" Rather, it appears to have been "What variables must be controlled in order to see if economic inequality *really* causes political dissent?" These researchers thus sought factors that confounded but did not explain the EI-PC nexus. This approach led to an inductive and eclectic search through conflict studies for psychological and systemic intervening, controlling, and context variables for the EI-PC nexus. Researchers then threw these variables, along with economic inequality, into the empirical soup (e.g., regression equations) to see what came out. In this manner, the statistical modelers summed up all the existing problems in the field without solving any of them.

One consequence of failing to examine assumptions about the EI-PC nexus was that researchers did not match economic inequality to political conflict in an exact theoretical manner. Hence, while it is certainly true that the inconsistency in measurement, cases, time frames, and controls partly accounts for the inconsistency of results, the deeper issue is that the rationales for the various EI-PC positions were poorly developed and hence the methodological procedures necessary to test them were not carefully worked out.

Consider this amazing gap. Virtually no one using this approach has suggested *what* characteristics of dissident movements are influenced by economic inequality! There are *no* speculations, for example, about the impact of economic inequality on an opposition group's size (number of dissidents), geographic scope of activity, participants (involvement by different types of actors), duration of activity, cohesiveness, ability to attract allies, radicalism of aims and goals, feelings of legitimacy and alienation from government, coercive capacity, and perhaps most important, tactics and form of attack (mass demonstrations or elite coups). It is equally amazing that no one, in all of this literature, has suggested *what* aspects of government policies and structures that are associated with dissidents are influenced by economic inequality. There are *no* speculations, for example, about the impact of economic inequality on governmental accommodation and repression of dissent, or on the growth of party systems and federal structures to institutionalize dissent. Thus, no one has bothered to suggest propositions about how *both* government and opposition groups respond to the EI-PC nexus.

Finally, I must give credit to the only two statistical modelers who have attempted to work out an explanation of the EI-PC nexus that ultimately

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served as a basis for their empirical work: Gurr and Nagel.[116] Their explanations were, however, ultimately unsuccessful because they did not emerge out of a coherent SRP with consistent assumptions.

Consider Ted Gurr's findings that are most relevant to the EI-PC nexus. Gurr shows the following to be true for a global sample of nations: the greater the scope and intensity of groups subject to economic discrimination, groups subject to political discrimination, and separatist groups in a nation, and the greater their size, cohesion, and coercive capacity, the greater the number of person-days lost from political violence in that nation. Gurr is to be credited with (a) broadening the EI-PC question to be consistent with the larger theoretical issues (i.e., relative deprivation) in his DA research program, and (b) producing apparently robust findings. Unfortunately, the innovative propositions and measurements Gurr introduces, and therefore the implicit assumptions behind them, are also consistent, as Tilly has pointed out,[117] with his RA research program. Hence, Gurr's propositions about the EI-PC nexus are either too easily explained or fundamentally unexplained; take your pick.

In sum, statistical models of the EI-PC nexus are ad hoc because they have produced findings that are either (a) not robust, or (b) robust but unexplained. However, this research tradition has, through the inevitable academic challenge and response, made some progress. Data are more comprehensive: statistical modelers have seemed to settle on a common dependent variable—the *World Handbook*'s measure of deaths from domestic political conflict. The statistical techniques are better: difference of means tests[118] have given way to single-equation estimation,[119] factor analyses,[120] and finally to multiequation models.[121] And the control variables are more interesting: modernization themes have given way to a focus on the policies and institutions of the regime and the dissidents. One must wonder, however, if the eclecticism of most statistical modelers will ever lead them to a robust and explicable EI-PC generalization.

IV. The Formal Modelers

Even if the empirical generalizations about the EI-PC nexus had been robust, a basic problem would have remained: *Why* is there an EI-PC rela-

[116] Gurr (fn. 22); Nagel (fn. 13).
[117] Tilly (fn. 2), 23.
[118] Tanter and Midlarsky (fn. 18).
[119] Parvin (fn. 17).
[120] R. J. Rummel, *The Dimensions of Nations* (Beverly Hills, CA: Sage, 1972), 178; William Eckhardt and Christopher Young, *Governments Under Fire: Civil Conflict and Imperialism* (HRAF Press, 1977), 104.
[121] Muller and Seligson (fn. 63).

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tionship? Some researchers have attempted to provide better reasoning about the EI-PC nexus by offering formal models.[122]

Many have attempted to formalize parts of the EI-PC nexus. Researchers have decomposed inequality[123] and heterogeneity[124] into politically meaningful phenomena. Some have shown how, in general, an income distribution may generate discontent.[125] Others have shown how, in particular, a Gini index may generate relative deprivation.[126] Davis, Boudon, and Kosaka have formally related objective material conditions to relative deprivation.[127] Ebert formally related inequality to social welfare functions.[128] Hirshman has shown how expectations about future income may be related to the income growth of reference groups, thereby producing a tolerance for inequality.[129] Havrilesky has argued that regimes face "discordance-inequality" indifference curves.[130] And Brito and Intriligator have demonstrated, in the international arena, how conflict over resources may result in either redistribution or war.[131]

However, it is Manus Midlarsky who has produced the most sophisticated and relevant formal models of the EI-PC nexus.[132] While the statistical modelers have taken inequality to be a conceptual or operational is-

[122] In conflict studies, only the EI-PC, repression-dissent, and diffusion of conflict puzzles have been treated in formalized models. See Mark Irving Lichbach, "Deterrence or Escalation? The Puzzle of Aggregate Studies of Repression and Dissent," *Journal of Conflict Resolution* 31 (June 1987), 266-97; Manus I. Midlarsky, "Analyzing Diffusion and Contagion Effects: The Urban Disorders of the 1960's," *American Political Science Review* 72 (September 1978), 996-1008.

[123] Hayward R. Alker, Jr., *Mathematics and Politics* (London: Macmillan, 1965).

[124] Rae and Taylor (fn. 50).

[125] Kort (fn. 35); Davis (fn. 12); Nagel (fn. 13).

[126] Shlomo Yitzhaki, "Relative Deprivation and the Gini Coefficient," *Quarterly Journal of Economics* 93 (May 1979), 321-24; Shlomo Yitzhaki, "Reply," *Quarterly Journal of Economics* 95 (November 1980), 575-76; John D. Hey and Peter J. Lambert, "Comment," *Quarterly Journal of Economics* 95 (November 1980), 567-73; William H. Panning, "Inequality, Social Comparison, and Relative Deprivation," *American Political Science Review* 77 (June 1983), 323-29; Z. M. Berrebi and Jacques Silber, "Income Inequality Indices and Deprivation: A Generalization," *Quarterly Journal of Economics* 100 (August 1985), 807-10.

[127] James A. Davis, "A Formal Interpretation of the Theory of Relative Deprivation," *Sociometry* 22 (December 1959), 280-96; Raymond Boudon, *The Unintended Consequences of Social Action* (New York: Macmillan, 1982); Kenji Kosaka, "A Model of Relative Deprivation," *Journal of Mathematical Sociology* 12, No. 1 (1986), 35-48.

[128] Udo Ebert, "Size and Distribution of Incomes as Determinants of Social Welfare," *Journal of Economic Theory* 41 (February 1987), 23-33.

[129] Albert O. Hirschman, "The Changing Tolerance for Income Inequality in the Course of Economic Development," *Quarterly Journal of Economics* 87 (November 1973), 544-66.

[130] Havrilesky (fn. 33).

[131] Dagobert L. Brito and Michael D. Intriligator, "Conflict, War and Redistribution," *American Political Science Review* 79 (December 1985), 943-57.

[132] Midlarsky (fn. 71); Midlarsky (fn. 99); Midlarsky (fn. 43); Midlarsky and Roberts (fn. 13); Roberts and Midlarsky (fn. 97); Manus I. Midlarsky, "Rulers and the Ruled: Patterned Inequality and the Onset of Mass Political Violence," *American Political Science Review* 82 (June 1988), 491-509.

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sue, Midlarsky takes it to be a theoretical one. He accounts for the EI-PC nexus by speculating that discontent is inherent in the process that generates economic inequality, and hence inherent in measures of economic inequality.

Midlarsky assumes that a specific mechanism or process, involving land scarcity and population patterns, influences the origin, evolution, and development of the distribution of land. Specifically, he assumes that the process of the subdivision of landholdings differs when there is abundance and when there is scarcity, and for the poor and for the rich. Because the rich tend to have lower birth rates, have sons who take up urban occupations, practice primogeniture, and become commercial absentee landlords, there is a bifurcation in the patterns of landholding: the size of the average landholding remains stable for the rich and diminishes for the poor. Thus, a class of poor peasants (the have-nots) becomes poorer while a class of rich landlords (the haves) remains rich. Given that land distribution follows such a mechanism, the result will be a random or probabilistic process of subdivision of land (or any scarce resource) such that a particular stochastic distribution, the exponential-geometric, fits the distribution of landholdings.

How does all of this relate to political conflict? Midlarsky suggests that the same process that produces inequality also produces zero-sum or nonzero-sum patterns of class polarization; this, in turn, produces patterns of identification between the ruler and the ruled; and this, in turn, leads to a "mobilization potential" and a "revolutionary ethos" among peasants. Hence, the same process that generates economic inequality also generates revolution. Moreover, different processes produce different patterns of inequality and thus different patterns of revolution.

Midlarsky has derived a large number and a fascinating variety of predictions from his model: the actual patterns of landholding that may be observed; differences in economic inequality and revolution between agrarian and industrial societies; patterns of intraelite conflict; patterns of elite-mass conflict; types of revolutions (e.g., "authentic" and "inauthentic"); the relation between population growth and revolutions; what governments do to prevent revolution; the kind of state/class coalitions that emerge; the differences in the explanatory power of his assessment of inequality versus the conventional Gini index; the consequences for postrevolutionary foreign policy; and why previous studies show revolution unrelated to land inequality, but related to income inequality. Midlarsky, moreover, has tested each prediction.

However, Midlarsky realized that he had located neither necessary nor

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sufficient conditions for revolution.[133] He also acknowledged that he needed auxiliary hypotheses before he could derive predictions:

> As a consequence of this equality in extremis among the increasing number of peasant poor, the range of social comparison increases . . . or at least the number of people who can identify with each other increases, thus focusing hostile attention on those few who have most of the land in a situation of extreme land scarcity. One can also speak of a decremental deprivation . . . in which the fortunes of the peasantry continually decline until the deprivation can no longer be tolerated.[134]

Thus, the process of identification between the rulers and ruled, the inequality between agrarian and industrial sectors,[135] "the nature of the observable characteristics of the elite,"[136] as well as redistribution[137] and state-class relations,[138] are all crucial to the actual outbreak of revolution. But Midlarsky did not formally develop these arguments. For a full treatment of the auxiliary motivational and behavioral assumptions needed to yield deductions about revolutionary behavior, he referred the reader to Gurr, on the inequality-relative deprivation link, and to Tilly, on the mobilization-revolution link.

What has gone wrong? The problem is that the formal models developed by Midlarsky and others have not been directly relevant to the EI-PC nexus. They have shown that a relationship between economic inequality and discontent can be derived logically, but have not linked discontent with violent behavior by the discontented. As Panning admitted,

> These results are pertinent to the relationship between inequality and instability insofar as the total relative deprivation in a society is a principal determinant, although not necessarily the only one, of its political stability. Virtually all the previous studies of inequality and instability have assumed that this is indeed the case. Whether such an assumption is warranted must be considered on another occasion.[139]

But many social psychological theorists would dispute the easy equation of individual attitudes and individual behavior, and many RA theorists, who base their approach on Olson's collective action problem,[140] would dispute the easy equation of individual attitudes and collective behavior.

Midlarsky therefore deserves credit as the only formal modeler actually to attempt to bridge the gap between discontent and behavior. How-

[133] Midlarsky (fn. 43), 25.
[134] Midlarsky (fn. 99), 20.
[135] Midlarsky (fn. 71), 48.
[136] *Ibid.*
[137] Midlarsky (fn. 43), 23.
[138] Midlarsky and Roberts (fn. 13).
[139] Panning (fn. 126), 323.
[140] Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge: Harvard University Press, 1965).

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ever, his principal hypotheses are less interesting and more challengeable than the auxiliary hypotheses he needed to produce the prediction that economic inequality leads to dissent. This conflicts with one of Popper's most important strategems in testing: use only well-confirmed auxiliary hypotheses to derive testable predictions.[141] An explanation of the EI-PC nexus that goes beyond the ad hoc rationales suggested in Section II is thus sought, but not attained, by the formal modelers.

V. The Theory Builders

Neither the statistical modelers nor the formal modelers have been able to shed much explanatory light on the EI-PC puzzle. This is because explanation, in the sense of a fundamental set of assumptions that can account for the EI-PC nexus, has not been achieved. Basic assumptions about conflict processes, which help structure the field of conflict studies, are available in the Deprived and Rational Actor SRPs. Most students of the EI-PC nexus, however, have not related their studies directly to one of these SRPs. Since such an exercise is one of the primary purposes of an SRP, an examination of the linkage between the EI-PC nexus and these particular SRPs is long overdue.

What do these SRPs imply about the EI-PC nexus?[142] How have DA and RA theories explained its indeterminacy? Some have argued that DA theories predict that economic inequality leads to conflict[143] and that RA theory predicts that it does not.[144] A closer examination of both SRPs reveals that these initial expectations are oversimplifications. To yield more appropriate deductions about the EI-PC nexus, it is necessary to work out the conflict (psychological and mobilization) processes of these SRPs more exactly. I will now demonstrate how these SRPs can be used to elaborate the EI-PC nexus and, in turn, how the EI-PC nexus can be used to elaborate the SRPs. Most important, this third approach to EI-PC studies produces a crucial test of DA and RA theories.

[141] Popper (fn. 1).

[142] One can also derive EI-PC propositions from other research programs. Michael Timberlake and Kirk R. Williams attempt to do so from a world systems/dependency perspective in "Structural Position in the World-System, Inequality, and Political Violence," *Journal of Political and Military Sociology* 15 (Spring 1987), 1-15. The literature in international relations offers many theories about how balances and imbalances, disparities and concentrations of international power lead to international war. See Pierre Allan, *Crisis Bargaining and the Arms Race: A Theoretical Model* (Cambridge, MA: Ballinger, 1983), 71. Finally, the relationship between inequality and conflict is also considered in economics and game theory. See Peter H. Aranson, "Political Inequality: An Economic Approach," in Peter C. Ordershook and Kenneth A. Shepsle, eds., *Political Equilibrium* (Boston, MA: Kluwer-Nijhoff, 1982).

[143] Weede (fn. 108), 438.

[144] Muller (fn. 13), 48.

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The Deprived Actor Scientific Research Program

Consider DA theories. The DA SRP emphasizes demand-pull factors (e.g., hearts and minds, grievances, preferences, attitudes, sympathies). In other words, DA theories generally suggest how psychological processes (both cognitive and emotional) intervene and hence may turn grievances about economic inequality into political dissent. In fact, the DA SRP developed by expanding the EI-PC nexus into a variety of deprivation-conflict propositions. Gurr, for example, tried to show how invidious discrepancies in economic, social, and political values were the most important determinants of conflict via relative deprivation.[145]

DA theorists, however, have suggested many specific micro-level psychological processes through which economic inequality may influence insurgency: relative deprivation and just deserts (i.e., a discrepancy between what people get and what they feel entitled to);[146] equity and distributive justice (i.e., a balancing of the system's inputs and outputs);[147] want-get frustration (i.e., unfulfilled necessities and needs);[148] discontent and a sense of social injustice;[149] government illegitimacy and political alienation;[150] dissatisfaction with policies directed at economic inequality and with a lack of responsiveness on the part of the system;[151] "class" consciousness (i.e., the identification with similar others); and, radicalism (i.e., the support for an opposition group that promises to end inequality). Hence, to use the DA SRP to explain the EI-PC nexus, it is necessary to choose one DA approach to breaking into the individual as "black box." A specific set of assumptions that provide a psychological linkage between economic inequality and conflict must be selected.

First, assume that conflict participants form expectations about what they should get, and hence evaluate economic outcomes with respect to a desired, minimum, or ideal point. People's preferences over rewards are thus based on expectations about what they believe that they deserve under some ideal system of just rewards. Each person uses a private conception of an ideal reward to rate each actual reward.

Such expectations about economic outcomes, in the form of attitudes towards economic inequality, are commonly thought to affect the EI-PC

[145] Gurr (fn. 2).

[146] *Ibid.*

[147] J. Stacy Adams, "Inequity in Social Exchange," in Leonard Berkowitz, ed., *Advances in Experimental Social Psychology* (New York: Academic Press, 1965); Edward W. Miles, "Selection of an Equity Formula Appropriate for Organizational Behavior Research," *Sociological Methods and Research* 15 (May 1987), 447-66.

[148] Zimmerman (fn. 6), 84-86.

[149] Moore (fn. 28).

[150] Edward N. Muller, *Aggressive Political Participation* (Princeton: Princeton University Press, 1979).

[151] Samuel H. Barnes and Max Kaase, *Political Action* (Beverly Hills, CA: Sage, 1979).

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nexus. Tilly, for example, who has bitterly opposed the DA research program, wrote that food riots "occurred not so much where men were hungry as where they believed others were unjustly depriving them of food to which they had a moral and political right."[152] Zimmerman argued that "data on how socioeconomic inequalities are perceived by various social groups must be gathered, if the inequality variable is to be employed in a fruitful manner in studies on political violence or revolutionary activities."[153] Sigelman and Simpson argued similarly: "An adequate explanatory model of the inequality-violence relationship would encompass not only objective measures of inequality, but also subjective estimates of inequality and popular perceptions of the stratification system."[154] Hirshman thus urged a focus on the "tolerance for inequality."[155] Moreover, many in the conflict literature have suggested that study of the origins of these expectations would provide a clue to the causes of conflict: norms, social comparison processes, histories, and ideologies.

Second, assume that conflict participants receive satisfaction as a result of the difference between what they get and what they expect. For example, people receive satisfaction not because of a certain level of income, but because that level of income is greater than the level of income that they expected. This assumption reflects the belief that people always want more of what they believe they are entitled to.

Third, we need to consider the mechanism by which expectations are formed.[156] A series of tough questions need to be answered: What are the affective and cognitive processes behind the formation of expectations? Where do the norms of distributive justice, fairness, reciprocity, morality, and social responsibility come from? To what do people pay attention in arriving at their expectations? A crucial issue, for example, in the moral economy literature on peasant societies is how the "norm of reciprocity" and "the right to sustenance" are formed.[157] And a key question in Gurr's model is how normative justifications for dissent arise.[158]

The DA research program suggests many possible mechanisms. This is because a variety of cultural forces create standards of justice and fairness that affect social interaction and thus ultimately influence peoples' expec-

[152] Charles Tilly, "Food Supply and Public Order in Modern Europe," in Tilly, ed., *The Formation of National States in Western Europe* (Princeton: Princeton University Press, 1975), 389.

[153] Zimmerman (fn. 6), 138.

[154] Sigelman and Simpson (fn. 13), 125.

[155] Hirschman (fn. 129).

[156] Edward N. Muller, "The Psychology of Political Protest and Violence," in Gurr (fn. 15); Zimmerman (fn. 6), chap. 4.

[157] James C. Scott, *The Moral Economy of the Peasant* (New Haven, CT: Yale University Press, 1976).

[158] Gurr (fn. 2).

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tations. People tend to mix together Harsanyi's distinction between "subjective preferences," which govern private choice, and "ethical preferences," which govern judgments about the welfare of society, in the formation of expectations about economic rewards.[159]

DA theorists, however, have tended to use two sets of evidence to narrow the choice among mechanisms of expectation-formation. First, there is some evidence from psychological experiments that individuals make equality-inequality comparisons and seek relative advantage.[160] In other words, people maximize differences between themselves and other actors, rather than maximize joint profit or their own personal gain. Such behavior occurs even if it entails sacrificing personal gains: people trade personal advantage for relative advantage. And there is some related nonexperimental evidence that "ethnic conflict is, at bottom, a matter of comparison."[161] Ethnic groups that "are more wealthy, better educated, and more urbanized tend to be envied, resented, and sometimes feared by others."[162] Moreover, "the claims of one group tend to be made at the expense of another—mutually exclusive demands characterize political debate."[163] Some theoretical work is also based on the assumption that people seek relative advantage. As Taylor indicated, even the foremost political philosopher of rational political action, Hobbes, thought this was people's motivation: "In *Leviathan*, Hobbes seems to assume that each man seeks to maximize not merely his own payoff, but also his 'eminence,' the difference between his own and other people's payoffs."[164] Hirsh, in his argument about ecological competition and the control over resources, suggested that many goods, such as power, prestige, and status, are positional, or relate to hierarchical, zero-sum competition.[165] It thus appears that, both in vivo and in vitro, disparities lead to invidious comparisons and then conflict. Hence, expectations are not absolute, or formed in response to some abstract standard of reward that may be summarized by past experiences;[166] rather, they are relative, formed in response to the rewards of concrete actors.

Thus, one process of expectation formation, consistent with some DA

[159] John C. Harsanyi, "Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility," *Journal of Political Economy* 63 (August 1955), 309-21.

[160] Michael Billig, *Social Psychology and Intergroup Relations* (London: Academic Press, 1976), 343-52.

[161] Donald L. Horowitz, *Ethnic Groups in Conflict* (Berkeley: University of California Press, 1985), 197.

[162] *Ibid.*, 102.

[163] *Ibid.*, 5.

[164] Michael Taylor, *The Possibility of Cooperation* (Cambridge: Cambridge University Press, 1987), 33.

[165] Fred Hirsch, *Social Limits to Growth* (Cambridge: Harvard University Press, 1976).

[166] Douglas A. Hibbs, Jr., "Industrial Conflict in Advanced Industrial Societies," *American Political Science Review* 70 (December 1976), 1033-58.

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arguments of the "relative deprivation" type, is as follows. Assume that preferences are not entirely self-regarding, but are partially other-regarding. Hence, expectations are formed based on rewards to other conflict participants. People thus form expectations in the manner of "bloc-regarding equalities."[167]

The final linkage is to behavior. DA theories observe that, given inequality, some actors receive greater returns from their economic activities than others. DA theories then assume, as has been indicated, that actors look at what others get, form expectations about what they themselves should get, examine what they do get, and then compare what they receive to what they expected. In these circumstances, when is moral outrage expressed (and hence actors rebel) and when suppressed (and hence actors are quiescent)?[168] DA theories thus ask: How do actors who are economically deprived relative to other actors react to the distribution of rewards? The answer is: out of anger, frustration, or other nonrational motivations, they often rebel. The synaptic link here has received too little investigation.

In sum, Deprived Actors care about relative income and wages. When economic inequality increases and in consequence, relative deprivation increases, some such actors become angry or frustrated enough to rebel. Thus DA theories of dissent argue that economic inequality will *generally* lead the poorer, impulse-driven actors to rebel, but only if some intermediate psychological processes (e.g., expectation formation and anger) are present to transform grievances about relative poverty into behavioral dissent. Hence DA theories can easily account for the observation that inequality may or may not produce strife. DA theory has coped with this empirical indeterminacy of the EI-PC nexus by isolating the intermediate psychological processes of expectation formation and anger that condition the relationship.

The Rational Actor Scientific Research Program

Now consider RA theories. The RA SRP emphasizes cost-push factors (i.e., opportunities, costs and benefits, resources). RA theories generally suggest how mobilization processes (both of rational choice and of organization) intervene and hence prevent grievances about economic inequality from turning into political dissent. These theories developed because it was believed that DA arguments linking the economy to dissent were analytically and empirically weak. Deprivation, it was argued, was neither a necessary nor a sufficient condition for conflict because (rational) politics was crucial.

[167] Rae et al. (fn. 25), 32.
[168] Moore (fn. 28).

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RA theorists in conflict studies have suggested many specific micro-level mobilization processes through which inequality may influence insurgency: Olson's model of public goods,[169] Down's spatial theory of mobilization,[170] the firm's production process,[171] and an organizational process approach[172] have all been employed. Hence, to use the RA SRP to explain the EI-PC nexus, it is necessary to choose one RA approach to mobilization processes. A specific set of assumptions that provide a linkage between economic inequality and conflict via mobilization must be selected.

First, what are the goals of conflict participants? RA theory assumes that preferences over outcomes are not other-regarding, but rather are self-regarding. The DA assumption of other-regardingness is contrary to conventional rational choice theory according to which

> A player is neither benevolent nor malevolent vis-à-vis the other players. That is to say, he tries to maximize only his own payoff without regard for the payoffs of others, except to the extent that the projected payoffs of others give him information as to how others are likely to play. The rational player is thus neither gratified nor peeved by the winnings and losses of the other players.[173]

RA theories thus observe that, even given economic inequality, actors still receive greater returns from some of their activities than others. RA theories then assume that actors may act because they compare the returns from their various actions. In other words, given that actors receive greater returns from some activities than others, they may base their actions solely on the amount of rewards they receive from the various activities. Rational actors, in other words, care about their own income and wages relative to what they can do, not relative to what others receive.

Second, what are the decision rules of conflict participants? RA theories ask: How do actors who rationally calculate their returns from various actions react to the distribution of rewards? The key question here is: How do rational actors react to the returns from their economic activities compared to their dissident activities? RA theories have suggested that actors use a simple cost-benefit calculus. Participants will spend an extra unit of their time on dissident activities only if the private reward from dissident activities is greater than the private reward from economic activities.

[169] David T. Mason, "Individual Participation in Collective Racial Violence: A Rational Choice Synthesis," *American Political Science Review* 78 (December 1984), 1040-56.
[170] James DeNardo, *Power in Numbers* (Princeton: Princeton University Press, 1985).
[171] Lichbach (fn. 122).
[172] William A. Gamson, *The Strategy of Social Protest* (Homewood, IL: Dorsey, 1975).
[173] Anatol Rapoport, "Three- and Four-Person Games," *Comparative Group Studies* 2 (May 1971), 191-226, at 192.

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The final linkage is to behavior. RA theory notes that as economic inequality increases, the rewards to economic activities may or may not decrease. This is because relative poverty does not necessarily imply absolute poverty. The RA argument is that as inequality increases, strife will not increase unless absolute poverty increases too. Moreover, even if absolute poverty increases with economic inequality, there are countervailing forces. On the one hand, absolute poverty will increase dissent because the returns to economic activity decrease relative to the returns to dissident activity. On the other hand, even absolute poverty will not increase dissent, because the returns from dissident activities are public and diminished by private costs (e.g., repression), and the larger the pool of the poor, the harder it *may* be to overcome the collective action problem.[174] As Weede observed:

> From a rational action perspective, action by the underprivileged *depends* on their chances of success which are, to say the least, not improved by being underprivileged. From a resource mobilisation perspective, the linkage between being underprivileged and political violence should *depend* on the connectedness of underprivileged people, on their organization for collective action—none of which is a necessary corollary of lacking privileges or suffering from exploitation.[175]

Thus inequality will not turn into behavioral dissent unless absolute poverty is present, and even then dissent might not result.

In sum, rational actors care about absolute income and wages; as economic inequality increases, absolute deprivation may or may not increase; only if absolute deprivation increases will dissent possibly increase; hence, rational actors probably do not rebel when economic inequality is high. Thus RA theories of dissent argue that economic inequality will *generally not* lead the poorer, rational actors to rebel, even if some intermediate political mechanisms are present to transform grievances about absolute poverty into behavioral dissent. Hence RA theories can also account for the observation that inequality may or may not produce strife. RA theory has coped with this empirical indeterminacy of the EI-PC nexus by suggesting how mobilization processes intervene and hence may prevent economic inequality from leading to political dissent.

A Crucial Test of DA and RA Theories of the EI-PC Puzzle

We are therefore left with the really important questions: Does the DA or the RA SRP offer the better explanation of the EI-PC nexus? Is it possible to construct crucial tests of the DA and RA programs? One way to answer

[174] Mason (fn. 169).
[175] Weede (fn. 38, 1987), 99.

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these questions is to determine how the predictions of SRPs differ. The SRP that is correct when the predictions are contradictory and hence competing is the better explanation of the EI-PC nexus.

Economic inequality has two aspects that provide the motivational base for the two SRPs' explanations of the EI-PC linkage. First, do actors respond to an attempt to influence *relative* income and wages or their *own* income and wages? The SRPs thus differ on whether actors will compare their returns from economic activities with (1) one another's returns from economic activities (DA theories), or (2) their own returns from dissident activities (RA theories). The greater the DA (RA) gap, the greater the dissent.

The problem of which is the better SRP, at least regarding the EI-PC nexus, may now be posed more precisely. Each set of theories in the field is best at explaining one half of the evidence about EI-PC outcomes: if economic inequality does lead to dissent, DA theory appears applicable (but RA arguments cannot be eliminated); if economic inequality does not lead to dissent, RA theory appears applicable (but DA arguments cannot be eliminated). Hence, DA theories focus on how invidious economic inequality leads to dissent (but can explain why it may not), RA theories on how invidious economic inequality need not lead to dissent (but can explain why it may).

The findings that economic inequality leads to dissent are thus a puzzle for the RA program because they question one of its central tenets: RA theory assumes that people are self-regarding and not other-regarding. Since actors have no regard for other actors, simple RA theory predicts that no nonspurious relationship between economic inequality and dissent will exist. Hence, positive and negative relationships between economic inequality and dissent are still a challenge for the RA program because they represent seemingly irrational behavior that cannot be accounted for. The RA SRP thus lacks convincing arguments about why economic inequality produces mixed effects on popular strife. The question thus becomes: Why, given rational actors, may any possible relationship result between economic inequality and dissent? The challenge to RA theory is therefore to show how rationality may lead to positive, negative, and no relationships.

Similarly, the findings that economic inequality does not lead to dissent are a puzzle for the DA program because they question one of its central tenets: DA theory assumes that people are other-regarding and not self-regarding. Given that actors have regard for other actors, simple DA theory predicts that a nonspurious relationship between economic inequality and dissent will exist. Hence, a nonexistent relationship between economic inequality and dissent is still a challenge for the DA program be-

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cause it represents seemingly rational behavior that cannot be accounted for. The DA SRP, like the RA SRP, thus lacks convincing arguments about why economic inequality produces mixed effects on popular strife. The question thus becomes: Why, given irrational actors, may any possible relationship result between inequality and dissent? The challenge to the DA SRP is therefore to show how irrationality may lead to positive, negative, and no relationships.

In sum, the SRPs, while not observationally equivalent regarding the EI-PC nexus, have built a "protective belt"[176] around their core assumptions about the motivations of actors vis-à-vis the economy. Findings that falsify the programs may therefore be easily explained away.

This problem reveals a limitation of the theory builder's approach to explaining the EI-PC nexus: imprecisely stated theories with informal deductions cannot lead to precisely competing predictions and crucial tests. Eckstein discovered these difficulties when he struggled to come up with crucial tests of "contingency" and "inherency" SRPs, but failed.[177] The problem, as Eckstein found, is that the SRPs are too eclectic.[178] Gurr's DA theory was consciously eclectic, mixing rational and nonrational assumptions about individual motivation. Attempts by RA theorists to produce a countertheory are also synthetic.[179] Eclectic and synthetic theories overlap and thus inhibit comparative (and crucial) tests.

Hence formalization of the assumptions of a theory are needed to derive the *nonobvious* and hence *subtle* predictions that, in turn, are needed to construct crucial tests. A far simpler set of assumptions and more formalized deductions and evidence are thus required before the SRPs can tackle the EI-PC nexus. In fact, if one uses a simple and stylized version of the DA and RA SRPs, then a crucial test is available.

RA models based on Olson's Collective Action theory[180] predict that rational people will never rebel unless dissidents can overcome the collective action problem: Since everyone will get the fruits of collective dissent regardless of their participation, why should anyone bear the personal costs of participating in dissent? Collective action theorists are therefore not surprised by the inconclusive findings about how economic inequality influences political dissent because they believe that the real explanation of dissent lies elsewhere: in how regimes intensify (e.g., by repression)

[176] Lakatos (fn. 14).
[177] Eckstein (fn. 15). For an instance where formalization leads to crucial tests, see Lichbach (fn. 122).
[178] Eckstein (fn. 15).
[179] Walter Korpi, "Conflict, Power and Relative Deprivation," *American Political Science Review* 68 (December 1974), 1569-78; Tilly (fn. 2).
[180] Olson (fn. 140).

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and dissidents overcome (e.g., by organizing) the collective action problem. Collective action theorists can suggest, in other words, particular conditions under which economic inequality should definitely be uncorrelated with dissent. Such conditions include high levels of government repression and low levels of dissident organization.

A crucial test of RA and DA theories relevant to the EI-PC nexus is therefore available. Simple collective action theory implies that any distributional measure that one cares to construct, whether Gini indexes, stochastic distributions, ratios of resource levels, or the size of various quartiles, will be uncorrelated with dissent. More importantly, Olson's arguments imply that if an EI-PC relationship is located in a particular sample of data, then it must be spurious. On the other hand, simple DA arguments predict that an EI-PC relationship will exist. More importantly, DA theories offer no reason why an EI-PC relationship should become spurious once collective action factors are controlled for. Hence, the test: determine if strong bivariate relationships between economic inequality and political conflict are spurious once factors relating to the collective action problem are controlled for. If EI-PC relationships are spurious, then RA theories are correct. If EI-PC relationships are strong and direct, then DA theories are correct. Such a test would go a long way toward settling both the specific EI-PC puzzle and the general DA versus RA issue in conflict studies.

VI. A Roadmap for Future EI-PC Studies

In sum, one may ask: How valuable are the macro quantitative studies of the EI-PC nexus? What can we extract from these studies? And, what is to be done now? All three approaches to EI-PC studies have pointed us in useful directions.

The statistical modelers have revealed that no clear answer about the EI-PC nexus exists, and none is likely to emerge. The evidence thus supports the view that, in general, economic inequality is neither necessary, sufficient, nor clearly probabilistically related to dissent. Some dimensions of economic inequality might be related to some dimensions of conflict under some conditions, but no empirical work has so far established this claim. Since there are major disagreements over how social welfare, justice and fairness,[181] equity in social exchange,[182] relative deprivation[183]

[181] Gary S. Fields, *Poverty, Inequality and Development* (Cambridge: Cambridge University Press, 1980).
[182] Miles (fn. 147).
[183] Berrebi and Silber (fn. 126).

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and inequality itself are a function of an income distribution, it is not surprising that researchers have been unable to relate an income distribution to a macropolitical outcome like political conflict. Researchers should therefore take the bottom-line, stylized fact that results from this literature to be the following: economic inequality may either have positive, negative, or no impact on dissent. It is this conditional relationship that needs explanation. Researchers need, in other words, a "conditionalization"[184] of the EI-PC nexus, to discover the necessary and sufficient conditions under which economic inequality produces positive, negative, and no effects on conflict. When does economic inequality stimulate or retard conflict among contending political groups? The answer that was suggested earlier—that it all depends on whether the collective action problem is fostered by regimes or obviated by dissident organizations—is especially worthy of investigation.

The formal modelers have revealed that researchers must link economic inequality with actual behavioral outcomes in a more direct manner. Conflict studies should seek, in other words, a formal model that can actually *explain* the EI-PC nexus. This must be done by employing some set of assumptions to arrive deductively at EI-PC propositions.

And the theory builders have revealed that these assumptions should be parsimonious. Anything can be derived from everything, as the DA and RA SRPs have unintentionally demonstrated. These SRPs, moreover, have shown that the assumptions should be reductionist:

> For very good reasons analysts are seldom content with enunciating a general relationship between two variables, however impressive the observed correlation between them, without offering some "theory" of why they should be related, a "theory" couched in terms of the motivations and perceptions of the actors involved. These "theories," of course, are interpretive explanations, reconstructions of the practical inferences of the relevant individuals.[185]

One should seek, in other words, to explain the EI-PC linkage with some general theory that uses social, political, and economic variables. To do this, one should interpret the meaning of the situation to the actors involved such that their actions also become intelligible to us. A version of DA or of RA theory is therefore needed to account for the EI-PC nexus.

All three approaches to explaining the EI-PC puzzle—those of the statistical modelers, formal modelers, and theory builders—thus have something to offer: after all, assumptions, deductions, and tests are clearly

[184] Edward J. Lawler, "Bilateral Deterrence and Conflict Spiral: A Theoretical Analysis," *Advances in Group Processes* 3 (1986), 107-30, at 124.

[185] Moon (fn. 115), 187.

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needed. This suggests an approach to a solution of the EI-PC puzzle: use the axioms of the theory builders, the deductive methodology of the formal modelers, and the data from the statistical modelers. In other words, as Eckstein argued in a review of quantitative studies of internal war, "we need here both better data and better reasoning."[186] By combining assumptions, deductions, and tests—the best contributions by the theory builders, formal modelers, and statistical modelers, respectively—perhaps the tough EI-PC nut can be cracked. A unified and coherent set of EI-PC theorems, with explicit assumptions that deductively integrate the different EI-PC relationships, may be possible.

This unification of approaches, of course, has not occurred. The statistical and formal modelers of the EI-PC nexus have not taken full advantage of what the SRPs have to offer, i.e., assumptions to employ in deductive reasoning. The formal modelers have not rooted their work in an SRP. And the statistical modelers have not used assumptions and deductions to guide tests. The problem in the field has been that all three requirements have been practiced by groups of people with different research skills. This becomes painfully obvious in any overview of EI-PC studies. A dialogue among these three types of researchers should therefore be encouraged, either informally through journals or formally through research teams.[187]

The combined research skills should obviously be used to develop propositions of the following form: given conditions (a), if economic inequality of type (b) occurs, then political conflict of type (c) occurs. Two examples (consistent with DA theories) of such EI-PC propositions are: (1) in third-world autocratic states, the greater the land inequality, the greater the person-days of peasant uprisings; (2) in first-world democratic states, the greater the wage differential between manual and nonmanual workers, the greater the person-days of strikes. The problem is that I earlier identified five types of conditions, three aspects of economic inequality, and four aspects of political conflict that have figured prominently in the empirical literature. Hence, there are potentially sixty *types* of EI-PC propositions. Given the many operationalizations already cited, the num-

[186] Eckstein (fn. 15), 156.

[187] It is interesting to note that the two most successful and widely cited analysts of the EI-PC nexus have combined two out of the three approaches. Both have had corresponding successes and failures. Manus Midlarsky combines statistical models with formal models, but his work, for the most part, lacks connections to an SRP in conflict studies. Ted Gurr combines statistical models with an SRP, but his work, for the most part, lacks parsimonious assumptions and deductive reasoning. Gurr begins a formalization of his work in Ted Robert Gurr and Raymond D. Duvall, "Introduction to a Formal Theory of Political Conflict," in Lewis A. Coser and Otto N. Larsen, eds., *The Uses of Controversy in Sociology* (New York: Free Press, 1976).

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ber of potential EI-PC propositions runs into the thousands. Such is our legacy of theoretical ad hoc-ery and statistical eclecticism.

Which EI-PC propositions are worthwhile? How can we make intelligent choices? I offer several guidelines.

First, EI-PC propositions should be formally deduced from a simple and stylized version of a major SRP in conflict studies.[188] Researchers considering an EI-PC proposition should ask themselves: What assumptions lead me to such a proposition? Are the assumptions consistent with DA or RA theories? Are the assumptions consistent with other EI-PC propositions that I wish to suggest? The motivation for empirical work has to be more than citations from the classics arguing that economic inequality produces political conflict.[189] Theory is the product of coherent research programs. And conflict studies are now too well developed for analysts to ignore the implications of the research programs in the field for their empirical work.

Hence, the difficulty with solving the EI-PC puzzle is not that it is too complex. The empirical world is always complex. The problem is that analysts have not used the fruitful simplifications offered by research programs to guide the generation of EI-PC propositions.

My second suggestion relates to how DA theories view the economic inequality or (b) component of EI-PC propositions. DA theories suggest that economic inequality is not the only type of inequality that influences conflict. Political and status inequalities and cleavages have always been a major explanation of conflict.[190] Most of the reasoning behind EI-PC propositions relates, in fact, to the intervening variables of social and economic cleavages. However, except for Gurr's studies, the empirical work has concentrated on how economic inequalities produce conflict. From the perspective of DA theories, the inattention to different dimensions of inequality is a major flaw of EI-PC studies.[191] Hence, I suggest a focus on the (b) component of EI-PC propositions based on DA theories. Propositions should therefore not be limited to the EI-PC nexus but rather expanded to the whole I-PC question.

My third suggestion relates to how RA theories view the given conditions or (a) component of EI-PC propositions. As indicated earlier, those who accept RA theories based on Olson's collective action approach believe

[188] I wholeheartedly echo Eckstein's (fn. 15) call for simpler versions of DA and RA theories.

[189] Recall that Aristotle and Plato offered much more than the citations and more than most of their contemporary admirers have offered: explanations of the EI-PC nexus (i.e., theories of justice). Perhaps we should declare a moratorium on EI-PC citations from Aristotle and Plato.

[190] Zimmerman (fn. 6).

[191] Gurr's (fn. 22) work on discriminated against and separatist groups is thus seminal and crucial.

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that the energies devoted to EI-PC propositions are misplaced. The real explanation of dissent lies in the (a) component (the conditions) and not the (b) component (economic inequality) of EI-PC propositions. Hence, I suggest a focus on the (a) component of EI-PC propositions based on RA theories. Collective action factors are therefore particularly relevant conditions to explore in the context of the crucial test outlined earlier.

My fourth suggestion relates to how both DA and RA theories view the political conflict or (c) component of EI-PC propositions. From either the perspective of DA or RA theories, the measurement of political conflict has been so inappropriate from a theoretical point of view that much of the work on the EI-PC nexus is unfortunately fatally flawed and can be rejected out of hand.

Consider that many of the studies of black rioting in U.S. cities explained riot "events." The goal, however, should *not* be to explain the occurrence of conflict events. Counting, for example, the number of black riots in a city over a five-year period tells us little about key aspects of black rioting in cities. This is because a single riot may be large or small on several different dimensions, for example, extent (number of participants and duration), geographic scope, intensity (number of deaths, injuries), etc. Counting the number of riots therefore aggregates heterogeneous events, producing much noise. When the noise outweighs the signal, empirical work fails. Hence, one should focus on the properties of these events, such as their extent and intensity, because that is what DA and RA theories try to explain rather than their occurrence. Gurr and Tilly do not explicitly agree on much, but in their empirical work both try to explain properties of conflict events, not their number.

And consider that many of the studies of dissent cross-nationally have treated government and opposition as if both reacted to economic inequality in the same manner. Thus, many measures of the dependent variable, although not recognized by the analysts, relate more clearly to government action than to opposition action. Repression is obviously a governmental act; the *World Handbook*'s measure of "armed attacks" includes governmental and opposition activities; and "deaths" from political violence are largely attributable to governments since the available cross-national evidence[192] shows that 80 percent of deaths occur among dissident forces and are caused by regime forces. This indiscriminate mixing of government and opposition activities in the dependent variable explains why the eclectic and largely data-driven models have discovered

[192] Gurr and Lichbach (fn. 22); also see Anthony Oberschall, "Group Violence: Some Hypotheses and Empirical Uniformities," *Law and Society Review* 5 (August 1970), 61-92, at 74-75.

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that government repression is an important control variable.[193] Hence, even though a higher r^2 might result from attempting to explain deaths from violence rather than person-days of violence, there are different theoretical issues involved in these variables.[194]

My final suggestion is that EI-PC propositions should not be limited to the evidence from the type of EI-PC studies discussed here. The empirical work surveyed here has produced *macro* (i.e., aggregate level) findings about the EI-PC relationship. At least five sets of empirical studies that have produced *micro* (i.e., individual level) findings about the EI-PC nexus are not reviewed here. First, some studies have demonstrated that rural stratification systems and land tenure patterns are correlated with radicalism and communist voting among peasants.[195] Second, some studies have shown that working-class stratification is correlated with socialism and leftist voting among workers.[196] Third, much survey research has been done on the question of how the perceptions of absolute and relative economic inequality relate to individual participation in dissent.[197] Fourth, inequality has been related to the general question of political participation.[198] Finally, there are the many empirical studies of social mobility and political behavior.[199] These five sets of studies have generated many interesting EI-PC propositions that could potentially be explained by the DA and RA research programs. And if one starts with a research program, one will want to branch out to the empirical world in all possible directions.

The flaws of the scientific modus operandi of EI-PC studies are instructive for other cross-national quantitative studies of domestic political conflict. The conflict puzzles involving repression, conflict traditions, modernization, external intervention, social cleavages, and political democracy have been approached by statistical models, formal models, and SRPs. As Zimmerman's in-depth overview of the field suggests, not a single puzzle has been solved, nor do any puzzles seem closer to solution

[193] Muller and Seligson (fn. 63).

[194] Gurr and Lichbach (fn. 22).

[195] See Donald S. Zagoria, "The Ecology of Peasant Communism in India," *American Political Science Review* 65 (March 1971), 144-60; Juan J. Linz, "Patterns of Land Tenure, Division of Labor, and Voting Behavior in Europe," *Comparative Politics* 8 (April 1976), 364-430.

[196] See Alan S. Zuckerman and Mark Irving Lichbach, "Stability and Change in European Electorates," *World Politics* 29 (July 1977), 523-51.

[197] See Muller (fn. 156); also see Maurice D. Simon, "Inequality and the Formation of the Solidarity Movement in Poland," in Midlarsky (fn. 4).

[198] Sidney Verba, Norman H. Nie, and Jae-On Kim, *Participation and Political Equality: A Seven-Nation Comparison* (Cambridge: Cambridge University Press, 1978).

[199] Seymour Martin Lipset and Reinhard Bendix, *Social Mobility in Industrial Society* (Berkeley: University of California Press, 1959), 64-72.

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now than a decade ago.[200] Indeed, conflict puzzles currently seem as unsolvable by quantitative studies as they did by the case studies they sought to replace. If quantitative studies are to fulfill their promise of solving the problems that case studies could not, then changes must occur in the field. The changes recommended here for EI-PC studies—integrating assumptions (SRPs), deductions (formal models), and tests (statistical models)—are also recommended for all quantitative studies of conflict. A similar diagnosis and remedy holds promise for quantitative studies in other fields of comparative politics, such as the etiologies of public policy and of inequality itself.

This paper has been concerned with the positive side of the EI-PC nexus. Most students of conflict believe that distributional issues are at the heart of politics, even if they do not know whether RA or DA theories are at the heart of the distribution-politics nexus. But to return to the normative side of the EI-PC nexus raised earlier, we may hope that studies of the conflict processes inherent in this nexus will lead to more distributionally just and peaceful politics. I stand firmly in the center when I say that, after all, the function of government is to govern efficiently and equitably. Both justice and order are requirements of the good society. Unfortunately, the studies reviewed here have allowed me to draw no roadmaps about how to get from here to there.

[200] Zimmerman (fn. 6).

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DEMOCRATIZING THE QUASI-LENINIST REGIME IN TAIWAN

By TUN-JEN CHENG*

AFTER nearly four decades of authoritarian rule by a Leninist party—the Nationalist Party or Kuomintang (KMT), democratic forces are now gaining ground in Taiwan. Since the mid-seventies, political space for electoral competition in Taiwan has gradually opened up, the degree of political contest has intensified, and the scope of political discourse in the public domain has widened. In the mid-eighties, various authoritarian legal constructs—notably the thirty-eight-year-old decree of martial law and the prohibition of new political parties and new newspapers—were dismantled, and rules for democratic politics are being established. Civic organizations are forming, and they are articulating their interests. Entry barriers to organized political competition have been removed and four new opposition parties have appeared. The archaic "Long Parliament" that lasted forty-one years and enabled the KMT to dominate political power is being phased out. In Alfred Stepan's terms, a civil society—that is, the arenas, movements, and organizations for expressing and advancing manifold social interests—has emerged, while the arenas and arrangements for political competition are being created under an authoritarian regime.[1]

Although the movement toward democratization in Taiwan is beyond any doubt, the interpretation of this trend is the subject of many debates. What factors best explain its origin? Is democracy the likely outcome? If so, how stable would such a democracy be?

The trend toward democracy in Taiwan can be construed as a consequence of rapid economic growth and social change in a capitalist economy. Almost all socioeconomic correlates of democracy that theorists of modernization have isolated—that is, high levels of urbanization, indus-

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[1] Stepan, *Rethinking Military Politics* (Princeton: Princeton University Press, 1988), 3-4.

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trialization, per capita income, literacy rates, and mass communication—are now present in Taiwan.[2] Democratic impulses are obviously consequences of economic and social transformation that the KMT regime itself has helped to create. Taiwan is, as Lucian Pye has recently suggested, "possibly the best working example of the theory that economic progress should bring in its wake democratic inclinations and a healthy surge of pluralism, which in time will undercut the foundations of the authoritarian rule common to developing countries."[3]

Democratic inclinations or impulses alone do not ensure regime transformation, however. The demand for democracy does not always create its own supply. Economic development may move a country to "a zone of political transition,"[4] but the direction of political change is not preordained. Instead of fostering democracy, economic performance may well make an authoritarian regime more resilient, if not more legitimate, or it may even give rise to authoritarianism. An authoritarian regime may succeed in co-opting or containing counter-elites. In the calculus of the attentive public, the opportunity cost of democratic movement may be too high to bear. Minimum concessions to popular demand for a greater say in politics may well extend the life of an existing authoritarian regime. In the end, democratic ferment may serve to consolidate authoritarianism.

Indeed, one informed observer forecast in 1984 that the KMT regime in Taiwan would merely "soften"—that is, reduce the degree and extent of political control—rather than allow democratization to run its full course.[5] At least two factors lend support to this expectation. First, as a Leninist party, the KMT would seem to constitute a more formidable barrier to democracy than do non-Leninist leadership structures, such as the military in bureaucratic authoritarian regimes like those in South Korea's and Brazil's recent history. With a high organizational capacity, a dominant ideology, and, above all, a deep penetration of society, a Leninist party is predisposed to steer the course of political change. Moreover, a Leninist party may be expected to do its utmost to resist the painful process of institutional *transformation* from a hegemonic, privileged party into an ordinary party in a competitive political arena. By contrast, a re-

[2] Seymour Martin Lipset, *Political Man*, expanded ed. (Baltimore: The John Hopkins University Press, 1981); Phillips Cutright, "National Political Development: Measurement and Analysis," *American Sociological Review* 28 (April 1963), 253-64.

[3] Pye, *Asian Power and Politics* (Cambridge: The Belknap Press of Harvard University Press, 1985), 233.

[4] Samuel P. Huntington, "Will More Countries Become Democratic?" *Political Science Quarterly* 9 (Summer 1984), 201.

[5] Edwin A. Winckler, "Institutionalization and Participation on Taiwan: From Hard to Soft Authoritarianism?" *China Quarterly* 99 (September 1984), 481-99.

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treat to its niche of national security presents a move of role *contraction* for the ruling military in a bureaucratic authoritarian regime facing economic adversity, and can theoretically even strengthen its hand. Whether a Leninist party is more competent than the military to manage political change depends on its possession of power bases and economic resources. Lacking a national power base and facing the task of distributing economic adjustment costs, for example, the Leninist parties in the Soviet-affiliated Polish regime and in independent, yet decentralized, Yugoslavia find themselves at present on the verge of disintegration and in need of the military for their rule.

Second, unlike some other third-world countries, Taiwan has little legacy of democracy. Institutional diffusion during the colonial era came from an authoritarian, imperial Japan, rather than from a liberal democratic Western power, as was the case in the Philippines, for example. Unlike Singapore and India, Taiwan was decolonized through a wholesale transfer of power and resources from a defeated colonial power to the KMT regime: this process took place without any political struggle. In addition, unlike most of Latin America, where oligopolistic competition in the last century and populist mobilization in the interwar and early postwar periods of this century had permitted active labor unions, outspoken churches, and political parties, postwar Taiwan did not inherit any democratic infrastructures. The cost of democracy to be created rather than revived is therefore very high when compared with the cost of accepting a reformed KMT regime.

If the advent of democracy in a society that enjoys economic prosperity is probable but not inevitable, how can one explain the genesis of democratic transition and the viability of an emerging democracy in Taiwan? Obviously it is necessary to go beyond the wealth theory of democracy, which merely identifies the arguably "necessary" conditions, as spelled out above, for a functioning democracy. (Some democratic regimes have long existed without these "necessary" conditions in such less developed countries as Costa Rica, India, and Colombia.) This paper will take the socioeconomic conditions conducive to democratic development as a given, and focus on the processes by which democratic forces in the society emerge, grow, and outmaneuver the regime in establishing a new institutional framework of political processes. This exercise is an application of the rule-of-the-game approach to democratic transition that was first enunciated by Dankwart A. Rustow and has recently been elaborated by Adam Przeworski.[6] In analyzing the process of democratization,

[6] Rustow, "Transition to Democracy: Toward a Dynamic Model," *Comparative Politics* 2 (April 1970), 337-63; Adam Przeworski, "Some Problems in the Study of the Transition to

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this rule-of-the-game approach first identifies the agents of political change, then examines the bargaining situations faced by key political actors individually or in coalition, and finally assesses how democratic rules are internalized and upheld by contending political forces.

This paper takes a fundamental position advancing the principal argument about the formation of democracy in Taiwan: the analysis of democratization should focus on the origin and development of political opposition. One only needs to recount how an authoritarian regime restricted and deterred the movement to democracy; after all, any regime with a monopoly on state power has every incentive as well as an immense capacity to prevent the growth of dissent and opposition.[7] Although an authoritarian regime often sums up its purposes in a finite and concrete way, it can easily redefine goals and tasks so as to extend its political life. Because authoritarian regimes seldom relinquish their monopoly on power voluntarily and usually make concessions for the sake of political expediency rather than democratic values, the rise and growth of political opposition should be the focus of the studies of democratic transition.

The success of democratic transition in Taiwan has been largely attributed to the political entrepreneurship of the new opposition, as reflected in its ability to set the agenda, to use extralegal methods in finessing the repressive legal framework, to shift the bargaining arenas, and eventually to force the ruling elite to institute a new set of rules. This new political opposition is essentially a middle-class movement, the consequence of rapid economic development; it differs intrinsically from the old political opposition of intellectual liberalism that originated in the May Fourth Movement. Many of its members are social-science trained intellectuals with professional skills and legal expertise. Moreover, they are socially connected to small and medium businesses.

We begin with a conceptualization of the KMT as an authoritarian regime, managed by a Leninist party. The rise and fall of an opposition of liberal intellectuals in the early years illustrates the extremely limited space that was then allowed for democratic movements. Next, we consider the socioeconomic changes that weakened the tight control of the KMT and bred the new opposition. After examining the democratic movement, we offer an explanation on why it achieved a breakthrough. We

Democracy," in Guillermo O'Donnell and Philippe C. Schmitter, eds., *Transitions from Authoritarian Rule: Comparative Perspective* (Baltimore: The John Hopkins University Press, 1986).

[7] Leonard Schapiro, "Introduction," in Schapiro, ed., *Political Opposition in One-Party States* (New York: John Wiley, 1972); Robert A. Dahl, "Introduction," in Dahl, ed., *Regimes and Oppositions* (New Haven: Yale University Press, 1973).

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conclude with some thoughts on the viability of a democracy that is still in the making.

Quasi-Leninist Authoritarianism

Postcolonial Taiwan fell to the KMT regime, which had been built on a continental scale but was soon compressed into an island society. The KMT regime, established in 1927 and entrusted with the task of national construction, had survived the Japanese invasion, but not the communist revolution on mainland China. In 1950, the regime, with 1.5 million people—mostly state employees and military personnel—moved to Taiwan, which at that time had an indigenous population of 7 million. Several factors contributed to the effective consolidation of the KMT's political power in Taiwan.

First, the indigenous elite was never strategically positioned in the state machinery. For a variety of reasons, the Japanese colonial government had recruited fewer local elites in Taiwan than in Korea.[8] Upon Japan's defeat in 1945, a large contingent of KMT expatriates quickly displaced the former colonial administrators; in 1947, an island-wide revolt (caused by the mismanagement of a corrupt KMT governor) resulted in the decimation of the local elite.[9]

Second, the defeat of the KMT regime on the mainland motivated and, ironically, facilitated a thorough political reform in 1951 by which the party apparatus acquired a high degree of organizational capacity and a semblance of corporatist structure. Upon its arrival in Taiwan, the KMT purged factional leaders within its own ranks (many had already fled abroad), built a commissar system in the army, extended its organizational branches throughout all levels of government and, following land reform, into every social organization in both rural and urban sectors. Defining "the people" as its social base, the KMT organized a youth corps, recruited leading farmers, formed labor unions in the state sector, and prevented the emergence of independent labor unions—all through leadership control and exclusive representation of these social groups.[10]

Third, because of regime relocation, national elections were conveniently suspended. Removed from their mainland constituencies, the national representatives were exempt from reelection for an indefinite period. They served in three organs: the National Assembly, whose main

[8] Edward I-te Chen, "Japanese Colonialism in Korea and Formosa: A Comparison of the Systems of Political Control," *Harvard Journal of Asiatic Studies* 30 (1970), 126-58.
[9] George H. Kerr, *Formosa Betrayed* (Boston: Houghton Mifflin, 1965).
[10] *Tzu Yu Chung Kuo* 1 (Taipei, 1961), 1.

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function is to elect a president every six years; the Legislative *Yuan* (literally branch), which enacts legislation; and the Control *Yuan*, a watchdog organization that monitors the efficacy and discipline of government officials. Tightly controlled by the KMT (and well paid), an overwhelming majority of the members of these bodies were inactive. Meanwhile, opposition parties disintegrated during their retreat to Taiwan and survived only on the KMT's subvention.

Fourth, the inheritance of colonial properties and the inflow of foreign aid—an economic payoff for political incorporation into the Western alliance during the cold war—made the KMT regime resource-rich in comparison with any social groupings. In the 1950s, the state controlled all foreign exchange derived from aid and state-managed agrarian export; it monopolized the banking sector, and state-owned enterprises accounted for half the industrial production. Reversing the prewar relationship between the KMT and business, in which the former essentially depended on the support (but often violated the interests) of the Shanghai capitalists, business in Taiwan came to depend on an autonomous KMT state.[11]

Most scholars have described the KMT regime in Taiwan between 1950 and the mid-1980s as authoritarian.[12] However, if one used Juan Linz's definition of an authoritarian regime as one characterized by a limited but not responsible pluralism, a mentality rather than an ideology, and control rather than mobilization, the fit is not exact. Intra-elite pluralism was punished; social conformity and national unity were emphasized. While syncretic and vague, Sun Yat-sen's three principles of the people, or *san min chi i*—namely, nationalism, democracy, and the people's livelihood (a very moderate form of state capitalism)—constituted the dominant ideology that precluded the advocacy of any other ideology. The KMT did not stop at exercising control over society. It sought to penetrate

[11] Parks M. Coble, Jr., "The Kuomintang Regime and the Shanghai Capitalists, 1927-1929," *China Quarterly* 77 (March 1979), 1-24; Joseph Fewsmith, *Party, State, and Local Elites in Republican China* (Honolulu: University of Hawaii Press, 1986); Richard C. Bush, "Industry and Politics in Kuomintang China: The Nationalist Regime and Lower Yangtze Chinese Cotton Mill Owners, 1927-1937," Ph.D. diss. (Columbia University, 1978); Tun-jen Cheng, "Political Regimes and Development Strategies: South Korea and Taiwan," in Gary Gereffi and Donald Wyman, eds. *Manufactured Miracles: Patterns of Development in Latin America and East Asia* (Princeton: Princeton University Press, forthcoming).

[12] Hung-chao-Tai, "The Kuomintang and Modernization in Taiwan," in Samuel P. Huntington and Clement Moore, eds., *Authoritarian Politics in Modern Society* (New York: Basic Books, 1970); Na-teh Wu, "Emergence of the Opposition within an Authoritarian Regime: The Case of Taiwan," mimeo (University of Chicago, 1980); Winckler (fn. 5); Jürgen Domes, "Political Differentiation in Taiwan: Group Formation within the Ruling Party and the Opposition Circles, 1979–1980," *Asian Survey* 21 (October 1981), 1023-42; Thomas B. Gold, *State and Society in the Taiwan Miracle* (New York: Sharp, 1986); Chalmers Johnson, "Political Institutions and Economic Performance: The Government-Business Relationship in Japan, South Korea and Taiwan," in Robert Scalapino et al., *Asian Economic Development—Present and Future* (Berkeley, CA: Institute of East Asian Studies, 1987).

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all organizations in order to prevent political competition and to secure resources for regime-defined political goals, even though effective mobilization was limited to the state sector and students.

In terms of party structure and party-state relationship, the KMT regime in this period was a Leninist one.[13] There was organizational parallelism between the party and the state: party organs controlled administrative units at various levels of government as well as the military via a commissar system. "Opposition parties" were marginalized and transformed into "friendship parties" of the ruling party. Party cadres were socialized as revolutionary vanguards. Decision making within the party was achieved by democratic centralism. Party cells also penetrated the existing social organizations. The KMT was an elitist party using mass organizations to mobilize support from large segments of the population for the national tasks that the regime imposed on society.

Two "structural" features distinguished the KMT from other Leninist regimes. First, unlike Leninist parties elsewhere, the KMT did not subscribe to the principle of proletarian dictatorship or the monopoly of political power by a communist party. Instead, the KMT's ideology advocated democracy via tutelage. The 1947 Constitution called on the KMT to readjust the party-state relationship from one of superimposition and party dictation to one of indirect influence via party members. From the viewpoint of the Constitution, the KMT was meant to be but one of many competing democratic parties and no longer the revolutionary party tutoring the government and society. The 1950 party reform, however, restored the KMT's position as a "revolutionary-democratic" party—a charismatic party with a niche in politics because of its leadership in the national revolution.[14] Such a reconfirmation of the party's traditional role enabled the KMT to shoulder the self-imposed historical mission of "retaking mainland China and completing national construction." The political hegemony of the KMT was thus not enshrined in the Constitution, but based on several so-called temporary provisions that were attached to, but actually superseded, the Constitution in the name of the national emergency arising from the confrontation with the communist regime on mainland China.

While suspending national elections, the KMT regime did permit political participation at the local level. Direct elections for both executive and council positions at the county, township, and village levels have been

[13] Mark Mancall, "Introduction," in Mancall, ed., *Formosa Today* (New York: Praeger, 1963): Yangsan Chou and Andrew J. Nathan, "Democratizing Transition in Taiwan," *Asian Survey* 27 (March 1987), 277-99.

[14] Kenneth Jowitt, "An Organizational Approach to the Study of Political Culture in Marxist-Leninist Systems," *American Political Science Review* 68 (January-March 1974), 89-98.

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held regularly since 1950. The provincial senate, originally composed of delegates elected by county councils, has been turned into the provincial assembly, subject to periodic direct elections since 1959 (although the governor has always remained appointive). Subnational politics adhered to an ingenious political design, which gave elective officials extremely limited budget-approving power and negligible regulatory power. It indicated the KMT regime's commitment to the goal of full democracy without having to announce a timetable. "Putting on a democratic face" as such also justified Taiwan's membership in the Western political camp. In addition, subnational democracy was a political safety valve that dissipated the political energy of disgruntled ex-landlords (comparable to the local councils that absorbed the de-aristocratized samurai in Meiji Japan). Finally, because of the domination of the media by the KMT, as well as its organizational and financial resources, local elections were also a mechanism for the KMT to co-opt local elites. The subnational elections instituted by the KMT regime in Taiwan were competitive, real, and local interest-based, totally unlike those of a Leninist regime.[15]

Second, while not lacking in socialist ideas, the KMT regime was embedded in a capitalist economy in which private ownership and market exchange were the norm, and state ownership and exchange by decree were exceptions. The KMT never embraced the ideological goal of a Leninist state. Its ideology lacked what one scholar has called a "goal culture"—that is, a pronounced commitment to an explicit program of social transformation with which to attain the sacrosanct goal of a communist society.[16] The principle of people's livelihood, one of the three pillars of *san min chi i*, espouses economic equality but does not specify any preferred means to attain it, such as industrial democracy, social ownership, or other redistributive policies. As suggested above, it has been interpreted as legitimizing a moderate form of state capitalism, and was used to justify, not the imposition of a ceiling on private enterprises, but an ill-defined floor of state-owned enterprises as a safeguard against the private sector. In fact, the imperatives of its own anticommunist stand, the necessity for compensating the agrarian elite during land reform, as well as the persuasion of United States aid-giving agencies induced the KMT regime to divest itself of some state-owned enterprises and to foster a few private enterprises as early as the 1950s.

[15] Bruce J. Jacobs, "Paradoxes in the Politics of Taiwan: Lessons for Comparative Politics," *The Journal of the Australian Political Science Association* 13 (November 1978), 239-47; Arthur J. Lerman, *Taiwan's Politics: The Provincial Assemblyman's World* (Washington, DC: University Press of America, 1978).

[16] Chalmers Johnson, "Comparing Communist Nations," in Johnson, ed., *Change in Communist Systems* (Stanford: Stanford University Press, 1970).

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Initially, the principal aim of the regime was to recover mainland China by military means. All major economic infrastructure projects were appraised in terms of economic benefits and their impact on military preparedness. The party incessantly conducted surveys on social conditions and kept social organizations in a combat mode. In place of national party politics, ad hoc consultations were conducted with elites from all walks of life. All aspects of local elections were tightly controlled so as to contain the growth of political opposition, which was regarded as a divisive force harmful to the national task of retaking mainland China. Campaigning, for example, was limited to ten days; qualifications for candidacy were constantly revised; election days were proclaimed unexpectedly; no supraparty supervisory body was permitted. As a result, the KMT predominated in local politics. Nonmembers surfaced during each election, but they were a sort of "quasi-opposition."[17] Such political actors were few and unorganized, primarily trying to distance themselves from the KMT rather than challenging the legitimacy of the existing political regime.

Under the tight political and social control of the KMT regime, only a few liberal intellectuals, under the cover of limited academic freedom, managed to air their dissent. During the mainland era, these liberal intellectuals had been part of the political circles that urged the KMT to make a quick transition from tutelage to a constitutional democracy. Regrouped in Taiwan, and in the atmosphere of the KMT's reform, the liberals found their political role in constructive criticism. With the support of several liberal-minded (American-educated) KMT elites and the subvention of the Asia Foundation, these intellectuals initiated a journal called *Free China Fortnightly* (FCF) to promote liberal democracy by means of political criticism and social education. The FCF group, tolerated for a decade (1950-1960) in spite of the early eclipse of its political sponsors, was the only focal point for political dissent. In the end, the group was relentlessly suppressed when it decided to coalesce with the indigenous Taiwanese elite to form an independent social organization as a first step to establishing a new political party.

The rise and decline of the FCF group defined the boundaries of political tolerance of the KMT regime as well as the limited capacity of the early political dissidents to expand their effectiveness. At most, the KMT regime would permit a political opposition that was individual-based, fragmented, and locally oriented rather than collective, coalescing, and nationwide. For its part, the FCF group as the backbone of democratic forces

[17] Juan J. Linz, "Opposition In and Under an Authoritarian Regime: The Case of Spain," in Dahl (fn. 7), 191.

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in the fifties suffered from its early origins and other constraints inherent in the Taiwanese social structure at that time. It owed its existence to the sponsorship of a few state elites; most of its founding members were para-state elites, previously affiliated with the KMT in one way or another. As a spinoff of the KMT elite, the FCF group lacked any grass-roots base. Second, the core members of the group were liberal intellectuals trained in the humanities, especially in philosophy, who excelled primarily at intellectual discourse and social education. It took them a decade to seek an alliance with indigenous Taiwanese political activists. A large portion of the latter were local notables, all of them professionals, but trained mostly in medical science and the like, rather than in the legal or social science disciplines that would have imparted the skills of political bargaining. These intellectuals and physicians were survivors of the past; they were not rooted in the contemporary social structure, which was basically composed of small farmers (a class politically captured by the KMT because of land reform) and state employees (a natural constituency of the KMT). Thus, not only was the political opposition of the fifties unprepared for strategic bargaining with the regime; society itself was not amenable to the mobilization of political opposition.

Socioeconomic Change and Political Opposition

The decade that followed the purge of the FCF group in 1960 was a dark age. The KMT regime tightened its grip on the society, arrested political dissidents who dared to voice their views, appointed retired military leaders to govern the province of Taiwan, and silenced any sort of political discourse. The consolidation of political power, however, was instrumental to economic growth, which had begun earlier but accelerated in the sixties. The choice of development strategy, economic policy making, and the changes in various incentive schemes were insulated from the sorts of political debates and societal pressures that are common in a democratic system. At the same time, the whole society was directed toward economic growth.

From the sixties on, economic development with which to make Taiwan a model of socioeconomic progress became an overriding goal that was to support, but not supplant, the long-term objective of retaking the mainland. The re-setting of national goals was probably due to a pronounced change in the parameters of national security. That is, following the 1958 Taiwan Straits crisis, it became clear that United States support of Taiwan was strictly limited to the defense of Taiwan; therefore the possibility of retaking mainland China by military means became remote.

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After Communist China announced the completion of an atomic installation in 1964, the prospect became even dimmer.[18]

At the same time that international security conditions forced the KMT to establish the priority of economic growth, that very growth seemed imperiled. By the late fifties, Taiwan's domestic market had become nearly saturated by import-substituting industry. Where were future markets for its goods to be found? The KMT turned to Chinese-American economists for advice,[19] and, under subtle pressure by the U.S. aid-giving agency, undertook economic reforms between 1958 and 1961, reorienting the economy toward export markets, freezing the state sector, and encouraging private entrepreneurship.

The story of Taiwan's achievement of export-led growth has been told many times. Between 1960 and 1980, Taiwan's gross national product increased at an annual rate of 9 percent; its exports expanded at around 20 percent a year; the industrial share of its production increased from 25 to 45 percent; income became more equitably distributed (the ratio of earners in the highest quintile to those in the lowest dropped from 5.5 to 4.18); and its inflation rate in the sixties was as low as 2 percent.[20] No one was left out of the process of economic development: one was either making it happen or realizing its benefits.

Rapid growth, however, had liberalizing social consequences that the KMT had not fully anticipated. With the economy taking off, Taiwan displayed the features common to all growing capitalist societies: the literacy rate increased; mass communication intensified; per capita income rose; and a differentiated urban sector—including labor, a professional middle class, and a business entrepreneurial class—came into being. The business class was remarkable for its independence. Although individual enterprises were small and unorganized, they were beyond the capture of the party-state. To prevent the formation of big capital, the KMT had avoided organizing businesses or picking out "national champions." As a result, small and medium enterprises dominated industrial production and exports. As major employers and foreign exchange earners, these small and medium businesses were quite independent of the KMT.[21]

The emerging bifurcation of the political and socioeconomic elite was

[18] Mervin Gurtov, "Taiwan: Looking to the Mainland," *Asian Survey* 8 (January 1968), 16-20.

[19] Samuel P. S. Ho, "Economics, Economic Bureaucracy, and Taiwan's Economic Development," *Pacific Affairs* 60 (Summer 1987), 226-47.

[20] Computed from *Taiwan Statistics Dada Book* (Taipei: Council for Economic Development and Planning), various issues.

[21] Tun-jen Cheng, "Politics of Industrial Transformation," Ph.D. diss. (University of California, Berkeley, 1987), chap. 3.

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intensified by the fact that it largely mirrored the sub-ethnic division between mainlander and Taiwanese populations.[22] As national politics was primarily reserved for mainlanders, the indigenous Taiwanese pursued economic advancement for social upward mobility. Thus, while economic resources were diffused, they came to be held largely by the Taiwanese.

These changes were occurring at the same time that the KMT's institutional capacity for mobilization and control, once so overpowering and well developed, was rapidly eroding. In some sense, this was because the KMT regime no longer entertained the idea of a military counterattack to return to mainland China. But in large part, the dynamic capitalist system had simply outgrown the regime's political capacity. In the institutional gap that emerged, the deficiency of the KMT cadre system is a notable example. Despite various efforts to reorganize the cadre system along occupational-functional lines, it is still largely based on administrative regions. The ever-expanding civic and economic associations are simply beyond the capacity of the KMT to monitor, much less to control. Moreover, there is a limit to which the regime can penetrate internationally oriented organizations, such as the Junior Chambers of Commerce, the Lions Clubs, and the Rotary Clubs.

It is not surprising that democratic ideas began to grow at the same time. In this maturing, open, capitalist economy, producers and sellers came more and more to internalize a market culture that honors contracts, depends on impersonal relations, respects consumers' tastes, and observes the rules of the game for competition. It became easy, for example, to accept the notion that democracy is a kind of political market in which government and politicians respond to public opinion.[23] Viewed from the demand side, if consumers determine a firm's success in the market place, why should not voters' preferences determine the acceptability of public officials or public policy? Viewed from the supply side, if businessmen can compete, why are political entrepreneurs still denied entry to the electoral market at the national level?

In the early-industrializing countries of Western Europe, the democratic impulse originated in the industrial bourgeoisie, particularly the textile and other nondurable consumer-goods industries.[24] One reason is

[22] Alan Cole, "The Political Roles of Taiwanese Entrepreneurs," *Asian Survey* 8 (September 1968), 645-54.

[23] Shirley Kuo, "Wo kuo ching chi fa chan tui min chu hua ti ying hsiang" [The Impact of Economic Development on Democratization in Taiwan], *Chung yang jih pao*, August 5, 1986, p. 1.

[24] James R. Kurth, "Industrial Change and Political Change: A European Perspective," in David Collier, ed., *The New Authoritarianism in Latin America* (Princeton: Princeton University Press, 1979), 318-62.

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that the consumer-goods sector did not need state assistance in capital accumulation and mobilization: it was not as capital-intensive as the producer-goods sector, and consumer goods from early industrializers were relatively competitive in the international market. Nor did this sector need the state's assistance to demobilize socialist workers. Yet, for access to the domestic market and to labor, it needed to eliminate internal trade barriers as well as the local guilds that immobilized the work force. The Western industrial bourgeoisie therefore pushed for representation in national political arenas to restrict state power and to ensure a laissez-faire economy.

In Taiwan the experience has been different. The bourgeoisie was not hindered by a landowner class, the latter having been eliminated by the state through land reform. In addition, the state in Taiwan acted on behalf of, but not at the behest of, the interests of the bourgeoisie—as, for example, in various state-initiated policies for export promotion. Moreover, labor in small and medium enterprises was treated paternalistically; it was neither organized nor was it prepared for collective action. Hence, there was no need for the government's coercive power to maintain industrial peace.

The main activists for political change in Taiwan were the newly emerging middle-class intellectuals who had come of age during the period of rapid economic growth. This new elite, consisting predominantly of Taiwanese from the countryside, demanded a liberal democracy, as the FCF group had in the fifties. Unlike the FCF leaders, who were scholars mostly trained in philosophy, education, and history, leaders of the new democratic movement were trained in the social sciences—notably in political science, law, and sociology. Like the FCF leaders, however, these new advocates of democracy are, in Reinhard Bendix's terms, educated elites reacting to ideas and institutions of a reference society and ready to apply them at home.[25] They adopted Western democratic ideals as well as democratic procedures, institutional design, political techniques, and legal frameworks. This new democratic leadership was better equipped with organizational skills and more likely to take political action than the FCF group had been. While the latter propagated ideas and educated, the former put ideas into practice and mobilized.

Although we have no empirical study of the career patterns of these new Taiwanese elites, there is strong reason to assume that the middle-class intellectuals who fueled the democratic movement were connected to leaders of small and medium businesses via various social ties based on school, regional, and workplace affiliations. Such businesses, especially

[25] Bendix, *Kings or People* (Berkeley: University of California Press, 1978), 12-13, 292.

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those in the export sector, offered political funds and a fall-back career to leaders of the political opposition. In many cases, the latter even had successful business careers in the export sector. The social science schools of major universities supply graduates both to thirty thousand export houses and to the political opposition.

Leaders of the democratic movement became oppositionists between 1972 (the year the KMT introduced political reform under new leadership) and 1977 (the year members of the political opposition coalesced to take collective action and scored an electoral victory). The movement of the political opposition actually started as a political reform movement at the beginning of the seventies; the response of the new KMT leadership was a slow process of political co-optation and a modicum of political liberalization in the form of allowing some latitude of political discourse. The large number of political activists and the limited scope of political reform led in the end to the formation of a counterelite that challenged the foundations of the KMT regime.

The political reform movement was initially triggered by Taiwan's forced severance of its formal ties with many Western countries and its loss of membership in the United Nations to Communist China. This diplomatic setback had a dramatic impact on the whole society and led the well-educated young elite, in Almond and Powell's words, to "acquire new conceptions of the role of politics in their lives and new goals for which they may strive."[26] While the initial reaction to the deteriorating external environment was patriotic, young intellectuals soon turned their attention to domestic society and politics, which they believed they could and should influence. Between 1969 and 1972, they conducted several social surveys, notably on the plight of the rural sector. They also questioned the structural deficiency of the regime, especially concerning the issue of the competence and legitimacy of the three branches of the National Congress that had not faced reelection since 1946, and had not made room for new members from Taiwan. There was what Reinhard Bendix would call an intellectual mobilization.

In 1973, the KMT regime responded to this intellectual ferment with several policy changes. In the socioeconomic arena, agricultural policy was drastically altered; the rural sector changed from one that had been heavily squeezed into one that has been heavily subsidized and protected ever since. In the political domain, young people—highly educated, and mostly Taiwanese—were recruited for party and government positions;

[26] Gabriel A. Almond and G. Bingham Powell, *Comparative Politics: A Developmental Approach* (Boston: Little, Brown, 1966), 65.

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supplementary elections were instituted to replenish the aging national representatives.[27]

These reforms coincided with the dynamics of leadership succession. Indeed, they would not have been possible without Chiang Ching-kuo's ascension to the premiership. He dismissed many of the old KMT leaders of the Chiang Kai-shek generation and instituted supplementary elections as a part of political reform. The latter was a necessary step to alleviate the serious problem of gerontocracy in the three national representative bodies. Members were aging or dying faster than they could be replaced by the KMT regime, either by enlisting alternates or by using secret, undemocratic methods (such as nominations from mainlander associations of various provinces). At the same time, the new agricultural policy seemed to have consolidated the KMT's power base in rural areas.

These initial political reforms had actually been designed more to co-opt the opposition than to expand participation. They were used to consolidate the KMT's leadership and position in society, especially in the rural sector. They had the unintentional effect, however, of expanding the pool of the new political elite from which the opposition was drawn.

Because of political co-optation, openings at the national level were quite limited for the political competition; not all ambitious leaders could be or wanted to be routed through the KMT. Because of the piecemeal approach of supplementary elections for the three national representative organs, there remained an evident contrast between "hereditary" politics at the central level and democratic politics at the local level—a situation that grew less acceptable as time went on.[28] The resulting disappointment with these political reforms led to the exodus of many of the new elite from the KMT; they collectively shifted their attention to the 1977 local elections and, together with a few dissident legislators, formed a solid group of political opposition.

The decade between 1977 and 1986 witnessed an accelerated democratic movement in Taiwan. The central thrust of the democratic forces was toward building a legitimate opposition party. Progress was by no means linear. It can be divided into two phases: the first, 1977-1979, was one of violence-prone confrontation between the opposition and the KMT; the second, 1980-1986, was one of intensive bargaining between the two sides. The first phase was a dramatic cycle of boom and bust for the dem-

[27] Mab Huang, *Intellectual Ferment for Political Reforms in Taiwan, 1971-73* (Ann Arbor: Center for Chinese Studies, University of Michigan, 1976).

[28] John F. Copper with George P. Chen, *Taiwan's Elections: Political Development and Democratization in the Republic of China* (Occasional Papers/Reprint Series in Contemporary Asian Studies, University of Maryland, 1986).

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ocratic movement that came close to self-destruction. In the second phase, the revived movement experienced some setbacks, but its gains were steady and cumulative.

Unquestionably, the announcement of local elections in 1977 stimulated an expansion in the democratic movement. The elections were marred by a riot in a poll station of Tao Yuan county, an event that began to tip the balance toward the conservative group within the KMT. Members of the political opposition campaigned as a group and won one-quarter of the magistrate posts and 30 percent of the seats in Taiwan's Provincial Assembly. The opposition delegation was large enough to stall the Assembly, but insufficient to pass any resolutions—a situation that was frustrating on various occasions. The sweet electoral victory and the sour provincial politics that followed caused the majority of opposition leaders to radicalize the democratic movement by taking to the streets and mobilizing the masses. These more radical leaders instantly emerged as the mainstream faction of the democratic movement. They were called the Formosa Magazine Group, or FMG, after the title of their principal journal. Their hope was to build up a social force strong enough to make their democratic demands credible and to deter the government from resorting to political suppression. Their initial efforts, however, only resulted in furthering the rise of the conservative faction within the KMT, which advocated suppression and intimidation by rapid deployment of the police force.

The suspension of a planned national election in late 1978, when Taiwan was shocked by President Jimmy Carter's withdrawal of recognition from its government, had the unintentional effect of spurring the FMG to escalate its efforts to mobilize support. The decision to defer the election, taken unilaterally by the government, was interpreted by the opposition as indicating an indefinite postponement. The FMG, through the island-wide branch offices of its publication, immediately intensified its campaign for democracy and human rights. Mass rallies and political agitation in the autumn of 1979 continuously pushed the limits of political tolerance and often verged on violence. In December 1979, these actions backfired when a violent confrontation with the police occurred at Kaoshiung and the regime quickly jailed most of the leaders of the radical opposition.

The Democratic Breakthrough

With moderates in control of the opposition movement after the Kaoshiung incident, the KMT regime sought to "normalize" the political

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process by reinstituting elections. In addition, it added more "supplementary positions" for electoral competition in the three national representative organs, enacted electoral laws to reduce the scope of administrative discretion over campaign activities, reiterated its commitment to democracy, and began to groom some liberal cadres for the task of continuing dialogue with the opposition. Democratization as conceived by the KMT was clearly an incremental process. It meant a gradual infusion of new blood among the aging national representatives—by means of a highly circumscribed election in which the opposition was denied the right to organize a party or parties of its own. Indeed, the KMT regime continued to prevent the expansion of the opposition as before, but it now applied the techniques of political restriction more subtly.

Under the stewardship of the moderate wing, the democratic movement recovered, winning 25 percent of the popular vote and 15 percent of the contested seats in the 1980 national election, and gaining momentum in two local elections that ensued. The opposition presented itself as a unified, credible political force. It emphasized nonviolence, but used extra-legal devices to coordinate campaign efforts. For example, its leadership institutionalized a process that recommended candidates and supported their campaigns. Electoral coordination was especially important because the electoral system Taiwan has adopted—a single-vote, multimember district system—tends to intensify competition among candidates of the same party. Opposition candidates also drafted a common platform that essentially demanded political liberalization (annulling martial-law decrees; restoring freedom to speak, publish, associate, and rally); reelection of the entire membership of the three national representative organs; direct election of the president, the provincial governors, and others, in that order. This common platform provided a clear benchmark for the opposition.

The progress that the opposition made in domestic elections was furthered by the discovery of overseas resources that it could tap. On their 1982 trip to the United States, four prominent moderate opposition leaders, invited by the State Department as a *team* to visit the U.S. Congress, were introduced to overseas Taiwanese organizations, several of whom were already active in the lawful lobbying business. This trip broadened the horizon of opposition members and transformed the social ties between them and overseas Taiwanese into a political nexus. The opposition thereby made a quantum jump in its own foreign relations. Previously the FMG had only maintained loose contacts with private human rights organizations, such as Amnesty International, which have little bargaining power vis-à-vis the government. Now the opposition had

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found an arena in the United States (as a security provider) through which the KMT regime (as a security consumer) might be indirectly influenced.

While the opposition remained unified immediately after the 1980 elections, legislative politics soon threatened to split up its leadership between the moderate senior leaders and the more radical junior leaders. The jailing of FMG leaders allowed moderates to become what Angela Berger, in another context, has called "prime leaders," credited with the rebirth of the opposition.[29] Moreover, the jailing of FMG leaders provided opportunities in the lower ranks of the leadership for young opposition members who had witnessed, but not taken part in, the previous radicalized opposition movement. Seeking recognition outside the Legislative *Yuan*, these young "lesser leaders" (Berger's term) were predisposed to repudiate the KMT regime in toto rather than to bargain with it within the existing system. They did not appreciate the concessions that the moderate leaders had extracted from the KMT party whip in the Legislative *Yuan*;[30] they also heated up the foreign policy issues—especially the issue of Taiwan's sovereignty and destiny, which had been on the political agenda of the opposition since 1982. Here, the "lesser," more radical leaders blatantly espoused the goal of Taiwan's independence while the "prime" moderate opposition leaders toyed with the "German formula" of using a basic law to postpone the issue of unification indefinitely.

This internal disunity in the opposition movement helps to explain its poor performance in the 1983 national election, in which both the movement and the moderates within it were weakened. To reintegrate the beleaguered opposition, its embattled moderate leaders thereupon proposed to establish a formal organization called the Association for Public Policy (APP). They hoped that this organization would function during and between elections, enabling the opposition to coordinate electoral strategies, minimize factionalism, and harmonize various policy stands. It was to fill the knowledge gap of the opposition in many policy issue areas, such as foreign policy, labor, and environmental protection, so as to enable the opposition to engage in a unified legislative debate and to appeal to its potential constituencies. The branches of the APP were also seen as an infrastructure for a political opposition party in the future. In short, the APP was proposed as a proxy for and a prelude to forming a new party.

The APP was formally established in 1984 and had some success. It ab-

[29] Berger, *Opposition in a Dominant-Party System* (Berkeley: University of California Press, 1969), 14.

[30] C. L. Chiou, "Politics of Alienation and Polarization: Taiwan's Tangwai in the 1980s," *Bulletin of Concerned Asian Scholars* 18 (July-September 1986), 16-28.

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sorbed many "lesser" leaders and formulated an agenda for democratic reform. On foreign policy, the APP successfully highlighted the principle of self-determination as a compromise between advocacy of Taiwan's independence and advocacy of the status quo. Although the principle of self-determination was utterly unacceptable to both the KMT and the communist regimes, who were both adamant on the unification of mainland China and Taiwan, it nevertheless began to gain in popularity. The few local chapters of the APP that were formed proved to be an effective organizational base for the political opposition. Meanwhile, party committees in the APP's local chapters and the committee for party constitution in the APP's main office commenced studies on the political party system.

The formation and expansion of the APP ran counter to the KMT's strategy to splinter the opposition movement. While threatening to disband the APP and its branches, the regime avoided taking any punitive action; instead, it urged bargaining and dialogue via a third small independent group of liberal professors plus a voluntarily retired member of the Control *Yuan*. However, several rounds of negotiations resulted in a stalemate: the KMT would admit the APP to two localities only—a minor concession that delegates of the opposition could not accept.

While using nearly every social gathering to demand democracy and to declare "the inalienable right of self-determination" for Taiwan's future, the opposition avoided violent action in the streets. For its part, the KMT regime was internally befuddled by various speculations about the political succession in the post-Chiang Ching-kuo era and externally troubled by the alleged wrongdoing of the security apparatus—an implication in the killing of several Chinese-Americans. In mid-1986, to deflect public attention from the issues of self-determination, political succession, and the tarnished international image of the regime, the KMT's chairman named a twelve-person blue-ribbon study group within the party to examine six crucial political issues: the restructuring of the National Congress, local autonomy, martial law, civic organizations, social reform, and the KMT's internal reform.[31]

In late September 1986, during the KMT's serious study of democratization, leaders of the political opposition announced the establishment of a new political party, the Democratic Progressive Party (DPP). The leadership of the KMT, in a condition of high uncertainty regarding the regime's reaction to the DPP, staged a coup in mid-October by proclaiming the end of the martial law decree and of the prohibition of political asso-

[31] Chou and Nathan (fn. 13).

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ciations, including parties. In December 1986, the DPP and the KMT competed as the two principal parties in the national election, and the KMT acted as an ordinary party in an emerging two-party system. The regime carried out the above decisions in 1987 and, in spite of strong resistance from the old generation of national delegates, moved to rejuvenate the membership of the three national representative organs by means of regular elections.

From the above reconstruction of events, it is evident that the political opposition has succeeded in turning itself from a target of suppression into an accepted competitor in politics. How can we explain this breakthrough? It seems that, for KMT elites, the concessions vindicated their longtime commitment to the idea of democracy; for opposition elites, the KMT's concessions were inevitable, necessary, and proof of the compelling power of democratic forces. These two contrasting views are overstated: the democratic breakthrough should be construed as the result of a series of calculated moves by both the rulers and the opposition. Only through analyzing the structure of the bargaining situation can one understand the logic of these moves that shaped the course of democratic transition.

The emergence of a political opposition in 1977 created a situation of strategic interaction between the KMT party-state and its challengers. Each move of one side was conditioned by one of the other's. The two sides were locked into a continuous process of bargaining wherein communication was possible and actions were observable. In this situation, both sides, often as rational actors, made decisions based on given information and the available options for results that they regarded as the most desirable *ex ante*. The opposition hoped to achieve a quick transition to full democracy (a total reelection for all political offices in a fair competition among parties), while the regime wanted to have a gradual and extended process of democratization.

Neither the regime nor the opposition was a unitary actor. On the side of the political opposition, as we have seen, there were both radical and moderate groups: the former were more disposed to risk-taking and even violence while the latter were more risk-averse and willing to negotiate. On the side of the KMT, there were conservative as well as reformist groups; the former were more troubled by possible negative effects of the democratic transition while the latter were more concerned with the increasing costs of freezing the status quo. These twin dichotomies complicated the bargaining situation, but not by as much as they might have: the shifting balance between hardliners and softliners in the KMT tended to correspond with the alteration of moderate and radical elements in the opposition.

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Other studies show that agenda setting and bargaining arenas also shaped the structure of bargaining and its outcome.[32] The party that has the power to set the agenda can prevent issues that are unfavorable to itself from reaching the bargaining table, or it can sequence the agenda in a way that will maximize its gains and minimize its losses. Different bargaining arenas impose different constraints on each side. A party is expected to shift the bargaining to arenas where it has a comparative advantage.

The opposition presented its demands in the following order: individual liberty from martial-law constraints, political freedom to associate and to dissent, complete reelection of the members of the legislative branch of the central government, and direct elections for the chief executive positions. Essentially, the decontrols of civic society would precede the contest for political power. The sequence seemed logical because a meaningful political contest is premised on the exercise of civil and political rights.[33]

It was not in the KMT's interest to impose a timetable for change, especially one set by the opposition; and, because it had control over the state apparatus, the legislative arena, and the media, the KMT could veto the democratization agenda proposed by the opposition. The KMT, in its own democratization agenda, actually reversed the logical sequence of democratic transition. Until 1986, it kept increasing the scope of supplementary elections while disallowing, in the name of national security, all opposition parties and public debates on political liberalization. Setting a purely electoral agenda enabled the KMT to minimize the opposition's gain in the extended process of democratic transition. Moreover, a very tight election law constrained campaign activity, and preelection crackdowns crippled critical publications.

There were four bargaining spheres: the streets, the Legislative *Yuan*, the third-party mediated dialogue, and overseas arenas (notably the U.S. Congress). In the streets, the opposition could take action at any time and in a place of its own choosing so as to address issues and views that were excluded from the KMT-controlled media. But this was also an arena where mob rule was possible, where the opposition was vulnerable under martial law, and where it would unavoidably be perceived as radical.

The second arena, the legislature, was dominated by the KMT. The opposition's electoral strength could not be fully translated into parliamentary power since only around 30 percent of the parliamentary seats were open to competition. Thus, although the opposition generally received 30

[32] John W. Kingdon, *Agendas, Alternatives, and Public Policies* (Boston: Little, Brown, 1984).
[33] O'Donnell and Schmitter (fn. 6); Stepan (fn. 1), 6.

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percent of the votes, it won only 20 percent of the contested seats (due, in part, to maldistribution of its electoral base); its representation in the Legislative *Yuan* amounted to only around 6 percent. The KMT's manipulation of regulations, such as raising the quorum for submitting a bill, further curtailed the legislative power of the opposition. As T. J. Pempel has argued, for a political opposition in a dominant party system, there is an inherent dilemma: boycott and obstruction bring no credit, while compromise for small gains involves the risk of being accused of collusion.[34] This arena could be an important one, however. There have been few members of the opposition in the legislature, but they were able to use it as a vantage point for monitoring policy making and for investigating such sensitive and controversial issues as the budget and the management of foreign exchange reserves. Moreover, membership in the legislature permits the opposition to gain some control over agenda setting via embarrassment and interpellation.

The defining feature of the third arena, the mediated dialogue instituted in 1987, was an explicit process of give-and-take. This arena could be a potential trap for the political opposition because of two asymmetric conditions. First, a compromise reached at the bargaining table is, by definition, a second-best solution. The likelihood of being discredited by internal critics for such a compromise was low for the KMT softliners, but high for the moderate wing of the opposition. Softliners might justify the deal as a minimal necessary concession, but the moderate opposition might have difficulty in contending that they had extracted the maximum possible gain. Second, the KMT had an institutional hierarchy, but the structure of the opposition was often fluid and poorly coordinated. In addition, the KMT's supreme leader could arbitrate between the conservative and reformist groups within the party, but the leadership of the opposition was still being formed. The KMT negotiator as an agent served only one principal, but the negotiator for the opposition had multiple principles and was often uncertain about his bargaining position.

The fourth arena owed its existence to the Taiwanese communities in the United States and to Taiwan's dependence on the U.S. for weapon supply, market access, and the implied underwriting of its security. Overseas Taiwanese had attempted to link the issue of human rights for political prisoners to the island's qualification for a preferential tariff. Although Washington had never imposed any economic sanctions on Taiwan, the possibility remains. Moreover, the lobbying efforts of overseas Taiwanese do make the issue of democratic transition more conspic-

[34] T. J. Pempel, "The Dilemma of Parliamentary Opposition in Japan," *Polity* 8 (Fall 1975), 63-79.

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uous to some influential American congressmen. In addition, several of the overseas Taiwanese organizations espoused revolution and armed struggle for Taiwan's liberation. The existence of Taiwanese revolutionaries overseas had the effect of making the domestic opposition seem more rational and moderate, and thus more acceptable to the KMT. In short, the opposition had the upper hand in the fourth bargaining arena.

In view of this structure of bargaining between the KMT regime and the political opposition, it is clear why the FMG had failed in the seventies. The 1977 election riot resulted in the ascent of the conservative wing within the KMT, while the Assembly's politics radicalized the majority of leaders in the political opposition. Locked in a situation of strategic interaction, the radical opposition and conservative KMT cadres did not communicate: the former did not heed the warnings of the latter, while the latter did not consult with the former about the suspension of elections. The result was that the FMG miscalculated and adopted an irrational strategy of seeking an instant breakthrough to democracy. The FMG's second mistake was to concentrate its efforts in only one bargaining arena—the streets—where martial law made it most vulnerable to suppression by the government.

The subsequent success of the moderate wing of the political opposition can be explained by its adoption of a different strategy. In 1983, it began to force the KMT to restructure the agenda. It did so by entering the debate on Taiwan's future—an issue that concerns everyone in Taiwan—and calling for either self-determination or a "German solution," thereby forcing the KMT to address the issue of democratization immediately. Indeed, once it had been placed on the agenda, the KMT softliners quickly saw the potential of using democratization to call attention to the widening gap between Taiwan and mainland China, to hurt the latter's political image, and to blunt its diplomatic offensive for reunification. These side effects gave the KMT a justification, if not an incentive, to make concessions to the opposition.

The DPP leaders also changed arenas, deemphasizing the bargaining table and instead working in a coordinated fashion in the three other arenas: the Legislative *Yuan*, the streets, and overseas. By playing the game in the Legislative *Yuan*, they obtained information and secured a hand in rewriting the rules. They used street demonstrations to amplify their voices, but did not resort to violence—the younger and more restive supporters being restrained by reminders of the debacle of the FMG. Thus, despite some strained relations between prime and lesser leaders, mass movement in the streets and opposition in the Legislative *Yuan* were skillfully coordinated.

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The overseas arena was also involved. Ever since its formation in 1982 for the purpose of lobbying, the Formosan Association for Public Affairs (FAPA) has set its agenda in accordance with that of the APP, and later the DPP.[35] The attempted return of exiled dissidents to Taiwan was timed to highlight the cause of the democratic movement. Indeed, the DPP's assertion that the formation of the party had long been planned is highly credible in view of the immediate attention paid to it by several leading U.S. senators who were contacted by the FAPA when the DPP was born.[36] The KMT regime, accused of violating human rights in U.S. territories, was susceptible to political moves on Capitol Hill. One way for the KMT to shore up its relations with Washington was to move Taiwan's politics toward democratization.

Skillful as the moderate opposition was, its success in securing the legitimization of opposition parties and a commitment to an accelerated transition to democracy must also be attributed to the shrewdness of the KMT in managing the change with the least cost to itself. It did this in three ways.

First, it secured, at least for a time, its cardinal policies. The formation of civic and political organizations and the exercise of political freedom was accepted, but only within the legal bounds of three restrictive principles—namely, no use of violence, no advocacy of communism, and, most importantly, no advocacy of separatism (Taiwan independence). These safeguards allowed the regime to exclude what Otto Kirchheimer has called "opposition in principle."[37] By not suppressing the DPP even though it had been illegally formed, and by making a wholesale concession to the DPP's demands for democratization, the KMT regime placed itself in a strong bargaining position to demand the DPP's compliance with the three principles. The DPP reciprocated by not including in its charter the principle of self-determination, which the KMT strongly opposed for fear it would eventually lead to Taiwan's independence.

Second, in spite of competitive elections, the KMT moved to secure—at least for a time—its domination of the legislature. It did this partly by not agreeing to open the entire legislature to popular elections all at once, but insisting that the members elected in 1946 retain their privileged positions until their deaths. This pleased the conservatives and helped to secure continued KMT dominance. Even after the entire representation has

[35] *Asian-American Times*, November 9, 1987, p. 1.

[36] *Min chi chou k'an*, June 11, 1987, p. 1; Ching Yu, "Chu tang shih yu chi hua ti hsing tung" [Establishing a new party was a deliberate and planned action], *Shih pao chou k'an*, October 4, 1986, p. 11.

[37] Kirchheimer, "The Waning of Opposition in Parliamentary Regimes," *Social Research* 24 (Summer 1957), 127-56.

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been democratically elected, the KMT's position seems likely to remain strong because of its ability to influence the electoral and party rules. With the exception of the three principles mentioned above, the revised election law of 1983 has very low entry barriers for new political parties. This has actually led to a mushrooming of new parties from the constituencies that the DPP had hoped to take over. The law also provides for single-vote, multimember districts, a system biased against a medium-size party like the DPP which has to compete with the leading party in most districts. This system works best for the leading party which can nominate optimal candidates and allocate votes accordingly in most or all districts, and for small parties which can concentrate their votes in a few districts.[38] Combining these rules on political competition with the ability to reward constituencies, the KMT is incubating in Taiwan a system in which one party is dominant, like that of Japan, rather than a two-party system, like that of the United States.

Third, it managed to hold off the democratizing breakthrough until many of the subethnic and intraparty tensions had been relieved. Ever since the democratic ferment surfaced in the early 1970s, the KMT has been trying to indigenize the party. By the mid-1980s, 45 percent of the Central Standing Committee's members and 75 percent of the cadres in the KMT were native Taiwanese. And ever since the political opposition became a formidable force in the late 1970s, the KMT has begun to democratize itself, instituting an open nominating system and a nonbinding primary system. By delaying the process of democratization, the KMT managed to separate this issue from others that might otherwise have coalesced to produce a violent revolutionary upheaval.

From Quasi-Democracy to Full Democracy?

Although Taiwan has definitely crossed an important threshold of democratic transition, the question remains whether the incipient democratic institutions will grow and endure. Robert Dahl has argued that once a repressive regime moves away from the premise of total control and begins to allow some opposition, there is no natural stopping point until it reaches full-scale political competition or else reimposes total control.[39] History has all too often seen the stymieing of democratization trends and the lapse of new democracies, as in Weimar Germany, Taisho

[38] Arend Lijphart et al., "The Limited Vote and the Single Nontransferable Vote: Lessons from the Japanese and Spanish Examples," in Bernard Grofman and Arend Lijphart, eds., *Electoral Laws and Their Political Consequences* (New York: Agathon Press, 1986), 154-69.

[39] Dahl (fn. 7).

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Japan, and, in the 1960s, the southern cone of Latin America. There are, however, a number of points that suggest that Taiwan may be on an irreversible course of democratization.

First, the KMT itself has internalized some democratic values. In a speech on Constitution Day 1984, Chiang Ching-kuo, the late chairman of the KMT, recognized—for the first time in the KMT's history—the existence of a "pluralist" society with diverse interests.[40] In the same speech, Chiang Ching-kuo affirmed the legitimacy of people's holding different points of view. After the birth of the DPP, Lee Huan, secretary general of the KMT, announced that the KMT, as an *ordinary* party, would compete with other parties peacefully and on an equal footing. And the KMT's training program ceased to socialize party cadres as revolutionary vanguards.[41] Such a normative perspective of its role in an emerging democracy is a drastic departure from the self-perception of the KMT during the past seven decades, when it saw itself as a revolutionary party which alone represented the national interest.

That this conversion is genuine is attested to by a number of facts. Internally, the KMT is institutionalizing its democratic procedures. Changes have been made in the rules governing the selection of candidates who run for public office on the KMT ticket, of delegates to the party congress, and even of the party leadership. Nomination is no longer a top-down process, but proceeds from the bottom up, beginning with open registration, a kind of nonbinding primary reflecting the preferences of rank-and-file members, and the selection of candidates by a nominating committee largely based on the results of the primary. Around two-thirds of the delegates to the Thirteenth Party Congress in June 1988 were selected through a competitive electoral process. This congress elected, from the floor, the Central Committee members from a long list of candidates who had either been recommended by the party's Organization Committee or nominated from the floor. The membership of the Central Standing Committee has, however, not yet been opened to competitive election.

Externally, the KMT is disengaging from the administration of the state and has increasingly become an electoral institution preoccupied with periodic political contests rather than a Leninist organization devoted to matching ideological goals with state policy. The separation of the party from the state is the task that remains the biggest challenge to a Leninist party. The personnel flow from the KMT to the state and the financial pipeline from the state treasury to the KMT have been made clear, thanks to the DPP's use of investigative power in the Legislative *Yuan*. Respond-

[40] *Chung yang jih pao*, December 25, 1984, p. 3.
[41] *Ibid.*, August 4, 1987, p. 2.

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ing to the DPP's and, to some extent, the media's criticisms, the KMT has begun to pursue a policy of self-reliance in its personnel and financial management. KMT cadres are being professionalized; that is, they are better paid, provided with pensions, task-oriented rather than merely loyalty-driven, and specialized in electoral strategy. Through its Central Investment Company, the KMT has become an active equity holder in industry and a key player in the financial market. In addition to transforming itself into an entity separate from the state apparatus, it is also withdrawing from the largely state-run educational system, in response to the students' and, to some extent, the faculties' demands for campus autonomy. It still retains some influence in the judiciary, especially over political libel suits. However, a supraparty supervisory body—now mostly composed of liberal scholars instead of the judiciary—monitors and judges the fairness of the electoral process.

A second reason why the democratization process probably cannot be stopped is that so-called veto groups, those with the potential and tendency to interfere with democratization, are no longer influential. Within the KMT, the ultra-rightist or conservative wing has lost its clout. The reformist wing is now in firm control of the party organization and supports all the young KMT office holders in the three national representative organs; they form coalitions among themselves rather than with the old privileged members who were elected in 1946.

The military, a frequent veto group in many third-world polities, has been politically neutralized since the introduction of the commissar system in 1950. Even if the party were to withdraw from the military, the propensity for military intervention in Taiwan politics would remain low. Military paternalism based on personal and regional ties was completely eliminated after the reorganization and centralization of the early 1950s. A rotation system of military command is firmly established. The military elite is well compensated, and the military as an institution has carved out many profitable niches in the domestic economy, such as in construction and in state-owned enterprises. Political control and economic payoffs can be expected to continue to dissuade the military from entering politics.

The third argument for the continued development of democracy in Taiwan has to do with the linkage between social cleavages and political forces. Taiwan's political forces are no longer solely structured by the sub-ethnic cleavage. Crosscutting social cleavages now complicate rather than radicalize the political contest.

The sub-ethnic cleavage between Taiwanese and mainlanders, as reflected in the political platform and elite composition of the opposition,

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provided the basic social framework within which the democratic movement unfolded. The principle of self-determination and the demand for democratic rights were invariably priority items in various platforms of the political opposition. Each reflected the gap between the two groups. The first was endorsed by very few mainlanders, but entertained by many Taiwanese. The second, the demand for democracy, was a middle-class issue that transcended the sub-ethnic cleavage. Democratization could be and had been interpreted as a redistribution of political power between the mainlanders and the Taiwanese. Although many liberal, intellectual mainlanders had supported the opposition for the purpose of creating a counterforce to balance the KMT, at most only a dozen were found in the leadership stratum of the opposition, and none in the rank and file. Thus, although the supporters of democracy were not exclusively Taiwanese, the opposition presented itself as a Taiwanese political force and it was so perceived.

As democratization proceeded, the issue of sub-ethnic cleavage lost its hegemony, though not its salience, in political dynamics. For one thing, the KMT leadership became increasingly indigenized. An overwhelming majority of KMT candidates for public office—the reservoir of new leaders—are now Taiwanese. The balance in the Central Standing Committee of the KMT is also tipping in favor of the Taiwanese. Since the democratic breakthrough in 1986, other socioeconomic factors have begun to strengthen the horizontal patterns of politics, particularly labor-capital relations. With the dismantling of martial law and the promulgation of a labor law and of laws governing civic organizations, labor unions have been legitimized. In view of the size of the working population (six million, about one-third of the total population), it is likely that issues involving working conditions, welfare, wages, and organizational rights will begin to command political attention. The significance of labor issues indicates the relevance of class cleavage to Taiwan's democratizing polity.

This is not to say that class has replaced, or will inevitably replace, sub-ethnic differences as the most fundamental cleavage in Taiwan's society. For one thing, the boundary between the self-employed sector and workers in small and medium enterprises is difficult to draw and easy to cross. Some workers, especially apprentices in small enterprises, often become owners of small shops.[42] Only one-sixth of the workers are employed in large enterprises where they might be more accessible to political activists. Moreover, a substantial number of lower-middle income and even low-income people perceive themselves as a vaguely defined middle

[42] Hill Gates, "Dependency and the Part-Time Proletariat in Taiwan," *Modern China* 5 (July 1979), 381-408.

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class—not a surprising phenomenon in societies with high social mobility and a low degree of income inequality such as Taiwan and Japan.[43] Other issues have become equally salient. A notable example is the conflict between the polluting industries and local residents, which involves the need to balance two competing goals, economic development and environmental protection. This issue has become high on the political agenda because ultimately the public has to decide on the trade-off between the costs of development and the costs of environmental protection. The social cleavage in this issue area is based on localities and regions, not on class.

Facing multiple social cleavages and diverse interests, both the KMT and the DPP, as their party constitutions reveal, are attempting to become catch-all parties. The KMT has defined its social base as the "people"; for the DPP, it is the "masses."[44] Several empirical studies of electoral behavior show no clearcut profiles of their supporters,[45] suggesting that both parties are still "discovering" their constituencies. Meanwhile, new parties, addressing single-issue areas, are being formed on behalf of clearly defined social groups. The emergence of the Worker's Party in late 1987 is a notable example that may indicate the surfacing of single-issue parties that will represent consumer, professional, and environmental groups; but, as of now, there is no clearcut bond between political forces and social interests.

The ultimate test of democracy is the acceptance of electoral results for a change in power. In the foreseeable future, it is unlikely that this test of democracy will have to be applied, since the DPP is not in a winning position. It has never been able to break the 30-percent barrier and its electoral base is not wide, while the KMT has the resources and the institutional framework to maintain itself nationwide. Still, it would be extremely costly to reverse the trend toward democracy.

[43] Yung Wei, "Hsiang tuan chi ho hsieh min chu ti tau lu mai chin" [Make headway to unity, harmony, and democracy], *Chung yang jih pao*, October 7, 1982, p. 3.

[44] The Secretariat, *The Party Constitution of the KMT* (Taipei, 1988); the Secretariat, *The Party Constitution of the DPP* (Taipei, 1987).

[45] Fu Hu and Ying-long Yu, "Hsuan min ti tou pieh chu hsiang: chieh k'ou yu lei hsing ti fen hsi" [Voting orientation of the electorates: A structural and typological analysis], paper presented to the Chinese Political Science Association, Taipei, September 9, 1983.

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POLITICAL INSTITUTIONS AND TAX POLICY IN THE UNITED STATES, SWEDEN, AND BRITAIN

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THIS essay addresses one of the broadest and most complex issues faced by students of comparative politics: Why do different democracies pursue different public policies? I address this issue through a comparative examination of the politics and structure of taxation systems in three prominent Western democracies. Despite the paucity of literature that examines taxation from a comparative perspective, taxes provide a peculiarly appropriate arena in which to examine broad comparative questions. Taxation is at the center of ideological debate between left and right in every modern welfare state. Taxation is a critical arena in the politics of who gets what in society and who pays for it in all polities. And, finally, taxes are fundamental to the very size and functioning of government.

Those few analysts who have attempted to explain why public policies vary between advanced democracies have posited three distinct explanations—"interests," "values," and "the state." The first explanation argues that policy outcomes vary because the distribution of power among political interests differs in democratic polities. Groups use their power to further their short-term interests. Thus, since the relative distribution of power between groups differs in these societies, policy outcomes will also differ.[1]

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[1] Pluralists, of course, suggested this explanation several decades ago, but it is continually being reviewed in new versions. Corporatists, for example, generally accept the principle that groups will fight for their short-term self-interest, but argue that the pluralist characterization of the bargaining process is inaccurate. See Frank Wilson, "Interest Groups and Politics in Western Europe: The Neo-Corporatist Approach," *Comparative Politics* 16, No. 1 (1983). Power Resource theorists use the same basic characterization of politics as the pursuit of economic self-interest and argue that various democracies pursue different public policies because different groups (now parties) possess different "power resources" with which to fight for their constituency's self-interest. See Francis Castles, "The Impact of Parties on Public Expenditure," in Castles, ed., *The Impact of Parties: Politics and Policies in Democratic Capitalist States* (Beverly Hills: Sage, 1982). See also Walter Korpi, *The Democratic Class Struggle* (London: Routledge, Kegan Paul, 1980).

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Proponents of the value, or cultural, explanation suggest that policies vary because people in different democracies want different things. The most famous of these arguments is, of course, Louis Hartz's explanation of American exceptionalism. Here, citizens have different expectations about the proper role of government in society, and this general value frames political debate within a polity. Ultimately, different value premises set nations on different policy paths.[2]

The third line of argument emphasizes the role of state institutions and actors in explaining why policies vary in modern democracies.[3] The analysis presented in this paper falls broadly into this category in its attempt to explain variations in tax policies between the United States, Sweden, and Britain.

Institutionalist analysis is not new.[4] Indeed it pulls our attention back to analytic categories that have long been of central interest to political scientists.[5] But it also builds on a critique of the more recently dominant "society-centered" explanations. Institutionalists argue that both the value and interest explanations suffer from at least two basic flaws. First, neither leaves adequate room for the role of the state, either as an independent policy force or as an organizational channel through which political actions must pass. Second, both lack an understanding of how policy preferences and interests are, on the one hand, shaped and, on the other hand, translated into specific policy choices.

Certainly some "state-centered" explanations can also be criticized for being too narrow. In the early attempts to draw attention to the role of the state and state actors, the significance of social forces and nonstate actors in the formulation of public policy was often left undervalued. Few today, however, would argue with the proposition that a more subtle analysis must integrate state/society perspectives in order better to understand how and why democratic governments act the way they act. Such an approach is offered here. My analysis pays attention to the role state actors and their preferences play in public policy making, but at the same time it notes that state actors are rarely particularly autonomous. Instead,

[2] For perhaps the best recent articulation of the value (or in his words "idea") thesis, see Anthony King's three-part article, "Ideas, Institutions and Policies of Governments: A Comparative Analysis," Parts I, II, and III, *British Journal of Political Science* 3, Nos. 3 and 4 (1973).

[3] See, for example, Eric Nordlinger, *On the Autonomy of the Democratic State* (Cambridge: Harvard University Press, 1981); Peter Katzenstein, *Between Power and Plenty* (Madison: University of Wisconsin Press, 1978); Peter Evans, Dietrich Rueschemeyer, and Theda Skocpol, *Bringing the State Back In* (Cambridge: Cambridge University Press, 1985); Peter Hall, *Governing the Economy: The Politics of State Intervention in Britain and France* (Cambridge: Polity Press, 1986).

[4] James March and Johan P. Olsen, "The New Institutionalism: Organizational Factors in Political Life," *American Political Science Review* 78 (September 1984), 734-49.

[5] See especially E. E. Schattschneider, *The Semi-Sovereign People* (New York: Holt, Reinhart, 1960).

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they, like the societal actors with which they interact, operate within a particular institutional framework. This institutional framework provides the context in which groups and individuals interpret their self-interest and thereby define their policy preferences. Ideas and/or interests are important for understanding variation in public policy among modern democracies. But the central argument of this paper is that one must ground these variables in the context in which they are defined and interpreted. Neither interests nor values have substantive meaning if abstracted from the institutional context in which humans define them.

Specifically, this paper will demonstrate that the different tax systems found in Sweden, Britain, and the United States can best be explained through an examination of the institutional structures through which these tax systems have been created. We will see, for example, that the Swedish tax system is not particularly progressive, and that Swedish capital is relatively lightly taxed, whereas the United States has a somewhat progressive tax system that taxes capital income more heavily than earned income. Neither interest-group nor value-based explanations can account for these outcomes. But through an examination of how the Swedish corporatist and American pluralist institutions shape the policy preferences of the actors involved in tax policy making we can make sense of these apparently counterintuitive results.

This analysis explicitly rejects an economistic or substantive notion of self-interest. Instead, it takes the individual or group's definition of self-interest as problematical. At the same time, this analysis proposes that neither specific policy preferences nor general political values appear out of thin air. Values and preferences are derived within particular contexts. For those who begin with the understanding of human rationality as fundamentally bounded, this argument will be uncontroversial. It marks a beginning toward a better understanding of the linkage between individual preference formation and broader issues of political behavior and policy outcomes.

Much of the "new institutionalist" literature has either emphasized the autonomy of state actors without clearly specifying what accounts for their varying degrees of autonomy, and/or left open the meaning of institutions. Peter Hall, for example, identifies institutions in the following way:

> The concept of institutions . . . refer[s] to the formal rules, compliance procedures, and standard operating practices that structure the relationship between individuals in various units of the polity and economy. As such, they have a more formal status than cultural norms, but one that does not necessarily derive from legal, as opposed to conventional, standing.[6]

[6] Hall (fn. 3), 23.

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The following analysis, in contrast, emphasizes more conventional variables. Understanding that institutions are part of an interactive relationship with the public policies that emanate from them, and appreciating that the specific loci of decision-making authority for any particular policy arena can vary across polities, this analysis intends to refocus our attention on variables as obvious as constitutional and electoral structures.

I argue that the decision-making models found in the three countries I examine (pluralism, corporatism, and party government) are rooted in different constitutional and electoral structures. American pluralist policy making can only be understood if we first appreciate the constitutional federal structure, the separation of powers, and the consequent diffusion of political authority in the absence of programmatic political parties. Similarly, Swedish corporatism occurs within a constitutional electoral structure in which national political authority is unified in a parliamentary structure, but the power to dominate that system is muted due to proportional representation, which dooms the dominant political party to virtually perpetual minority or coalition governments. Britain's parliamentary system does not force governments into coalition, or indeed into parliamentary compromise. Under the British electoral system, a political party can win substantially less than 50 percent of national popular votes but can still win substantially more than 50 percent of parliamentary seats. Party government emanates from this constitutional system.

Having emphasized the importance of constitutional structures, I do not intend here to present an ahistorical or unidimensional analysis. These foundations are necessary but in themselves they are insufficient. We must, in addition, consider the structure of the domestic economy. Most specifically, we are interested in the concentration of power within both labor and the business community. These variables are also somewhat historically determined (e.g., early developers have less centralized economies)[7] but there may also be an interdependence between regime type and public policies that promote and/or inhibit economic concentration. I do not dwell on this variable, however, in large part because it has been the subject of much theoretical and empirical investigation. The correlation between economic structure and regime type is largely uncontroversial.

My argument does not attempt to draw a direct unidimensional link between the electoral structures found in a country and specific tax policy outcomes. It does argue, however, that these structures set the stage for the development of particular decision-making institutions, which must themselves be the subject of empirical investigation. These institutions

[7] See Alexander Gershenkron, *Economic Backwardness in Historical Perspective* (Cambridge: Harvard University Press, 1962), for the basic line of argument here.

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provide the context in which interest groups, politicians, and bureaucrats define their policy preferences. As Peter Hall writes, "Organization does more than transmit preferences of particular groups, it combines and ultimately alters them."[8] Political institutions, then, are the critical variables for understanding how and why different democratic governments tend to choose different public policies.

Comparative Taxation Policy

As mentioned above, the actual tax systems found in the three countries examined here do not correspond neatly to most people's expectations. Sweden, for example, although famous as the most progressive social welfare state, relies comparatively little on redistributive wealth and property taxes which amount to less than 2 percent of total tax receipts (TTR), little on national progressive income taxes (approximately 14 percent of TTR), and very little on corporate profits taxes (2.4 percent of TTR). Instead, Sweden relies very heavily on regressive value-added taxes (VAT), flat rate local income taxes, and flat rate social security taxes (approximately 20 percent, 28 percent, and 30 percent of TTR respectively). On the other hand, the United States, which is often regarded as a "laggard" welfare state, relies principally on more redistributive taxes, such as progressive income taxes (approximately 35 percent of TTR), corporate profits taxes (10 percent of TTR), and property taxes (10 percent of TTR). Nevertheless, regressive social security and consumption taxes contribute 26 percent and 15 percent of U.S. receipts respectively. Moreover, state and local sales taxes in the United States, like the national VAT in Britain, generally exempt "basic necessities," such as food, in the interests of minimizing their regressive impact. The Swedish VAT, in contrast, is applied at a flat rate on all goods except those designed for investment or export. When all taxes are considered (including state and local taxes), the United States relies substantially more heavily on "redistributive" individual and corporate income taxes and property inheritance and wealth taxes than either Britain or Sweden (see Table 1).[9]

Three Tax Systems?

Precisely because tax policies are so central to the operation of a modern mixed economy, they are profoundly complex. At first this complex-

[8] Hall, "Patterns of Economic Policy: An Organizational Approach," in David Held, ed., *States and Societies* (Oxford: Martin Robertson, 1983), 370.

[9] All data represent 1980 figures. See Organization for Economic Cooperation and Development (OECD) *Long Term Trends in Tax Revenues of OECD Member Countries: 1955-1980* (Paris: OECD, 1981). Sweden has no general property tax. The national wealth tax has been included in the above figures. The U.S. and U.K. had no general wealth taxes in 1980.

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TABLE 1
REDISTRIBUTIVE TAXES
(INCOME, CORPORATE PROFIT, PROPERTY, INHERITANCE, AND WEALTH)
AS A PERCENTAGE OF TOTAL TAX REVENUE, 1980

Sweden	44.3%
Britain	49.1
U.S.A.	57.1

Source: OECD (fn. 9).

ity appears to be a dense thicket into which no researcher could hope to penetrate. But after we examine tax structures for some time, we come to appreciate that not all thickets are alike. Indeed clear patterns emerge that allow us to distinguish one tax system from another. Tax structures are not random collections of various revenue sources in which each tax differs fundamentally from the others. Instead each nation's tax system can be distinguished by its broad patterns. Focusing on these broader patterns enables us to examine and compare the tax systems.

The U.S. tax system is often criticized for being "a perverse welfare system that hands out . . . billion[s] a year, primarily to the rich."[10] And it is commonly assumed that effective U.S. tax rates are regressive. But as Figure 1 indicates, neither assumption is particularly accurate. In our common understanding of "progressive," the effective distribution of taxes appears to be at least as progressive in the United States as in either Sweden or Britain. The U.S. tax system does indeed "hand out billions," and many of these billions go to upper-income groups. But, as John Witte has demonstrated, the poor and middle classes are also massive recipients of tax welfare.[11] Indeed, one of the major distinguishing characteristics of the American tax system is the huge number and amount of tax expenditures that complicate the tax code.[12] No other tax system is as particularistic, nor as complex, as the American. In addition to its complexity and particularism, the American tax system is distinguished by its low revenue yield, its comparatively heavy reliance on progressive sources of revenue, and the significant tax burden borne by the corporate sector.[13]

[10] Michael Harrington, "Do Our Tax Laws Need a Shake-up?" *Saturday Review*, October 21, 1972. Close to two-thirds of taxpayers in the U.S. feel that the current tax system is "unfair"; H and R Block, *The American Public and the Federal Income Tax System* (Kansas City: H and R Block, 1986), 9.

[11] Witte, "The Distribution of Federal Tax Expenditures," *Policy Studies Journal* 12 (September 1983).

[12] The term "tax expenditures" refers to exemptions, deductions, tax limitation, reduced rates, credits, or other special measures in the tax code that effectively reduce the tax burden for some individuals, groups, or companies. Tax expenditures are often called "loopholes" in common parlance. The term "expenditure" has been used to remind us that each of these measures produces a loss of revenue to the treasury and as such constitutes expenditures by the government.

[13] King and Fullerton designed a general equilibrium model with which to estimate the

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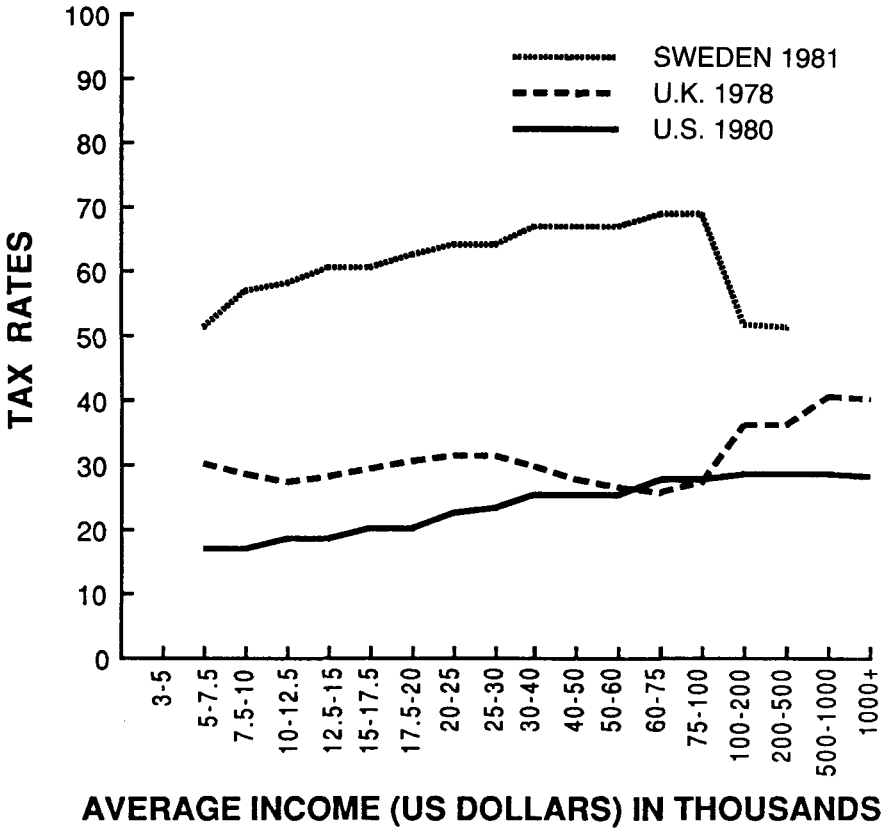

FIGURE 1
TOTAL EFFECTIVE TAX BURDEN AS PERCENTAGE OF INCOME

Sources: Joseph Pechman, "Taxation," in R. Caves and L. Krause, eds., *Britain's Economic Performance* (Washington, DC: The Brookings Institution, 1980), Table 12. For the U.S., data courtesy of Joseph Pechman, The Brookings Institution; for Sweden, Riksrevisionverket, *Statistika Meddelanden*, SOU:1983:7.1, Tables 4.8, 5.1, 10.7, and OECD, *The Impact of Consumption Taxes at Different Income Levels* (Paris: OECD, 1981). (It is assumed here that the distribution of consumption taxes is the same in Sweden as in Norway.) For a more detailed discussion of the effective distributions of taxes in these countries and the assumptions underlying the incidence distributions, see Sven Steinmo, "Taxes, Institutions and the Mobilization of Bias" (Ph.D. diss., University of California, Berkeley, 1987).

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effective marginal tax rate on capital income. According to their estimates, the U.S. had the highest tax rate of the three countries I examine here. Though rates varied according to assumptions used, the overall marginal tax rates in 1980 were estimated to be: U.S., 37.2%; Sweden, 35.6%; and Britain, 3.7%. Don Fullerton and Mervyn A. King, *The Taxation of Income From Capital* (Washington, DC: National Bureau for Economic Research, 1983).

Since these estimates were made, significant changes to these tax systems have taken place (see below). Moreover, though the Fullerton and King findings largely support the arguments made here, we need to be somewhat careful with this type of econometric analysis. For a good overview of general equilibrium analysis and some of its limitations see John Walley, "Lessons from General Equilibrium Models," in Henry Aaron, Harvey Galper, and Joseph Pechman, eds., *Uneasy Compromise* (Washington, DC: The Brookings Institution, 1988), 15-58.

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The Swedish tax system, in contrast, is distinguished by its heavy reliance on relatively regressive forms of taxation and relatively light taxation of capital and corporate income. Instead of using taxation as a direct instrument of redistributive policy, Swedish authorities have constructed a tax system that generates huge revenues while at the same time attempting to encourage the concentration of domestic productive investment. In practical terms this has meant that the Swedish tax system taxes average workers exceedingly heavily, yet taxes capital and corporate income remarkably lightly. Of all OECD countries, Sweden's corporate income tax contributes the lowest tax yield, both as a percentage of GDP and as a percentage of total taxation (see Figure 2). Moreover, as several recent studies in Sweden have shown, there are currently so many generous tax expenditures for capital income in Sweden today that, taken together, there is a net revenue loss from capital income taxation.[14]

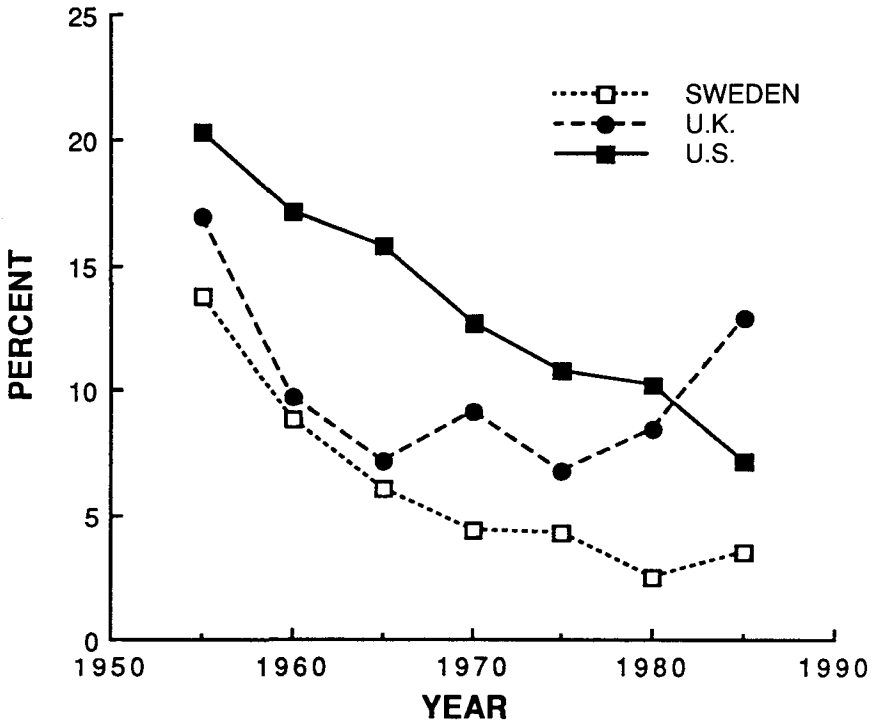

FIGURE 2
TAXES ON CORPORATE INCOME AS PERCENTAGE OF TOTAL TAXATION

Sources: OECD (fn. 9), and OECD, *Revenue Statistics of OECD Member Countries: 1965-1986* (Paris: OECD, 1987).

[14] See Gustav Lindencrona, Nils Mattsson, Ingemar Stahl, and Jan Broms, *Enhetlig Inkomst Skatt* [Integrated income tax] (Stockholm: SACO/SR, 1986); or SOU:1986:40, *Utgiftsskatt* [Expenditure tax] (Stockholm: SOU, 1986).

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The British tax system is more difficult to characterize than either the Swedish or the American. In many respects, it appears to stand in the middle between them. In revenue terms British taxes are neither as onerous as the Swedish, nor as light as the American (see Table 2). The same can be said with respect to Britain's reliance on progressive rather than regressive taxes (see Table 1). But this does not imply that British taxation is unremarkable. Instead, the British tax system is distinguished by instability and lack of fiscal coherence in its structure. Since World War II at least, British taxes have seesawed: particular taxes have gone up, down, and up again (both in terms of marginal and effective tax rates); new taxes have been introduced, reformed, and repealed; and old taxes have been manipulated in major ways. Seldom, however, do British policy makers pay significant attention to how changes in one tax affect other taxes. Indeed, the ad hoc character of the British tax structure makes it difficult to describe it as a system at all.

Taxing vs. Spending?

Before we continue this analysis we must explicitly address an obvious question. Does it make sense to look at taxation policy separately from spending policy? Though it is clear that most students of comparative policy rarely address the flip side of this question—does it make sense to talk about public expenditure policy without explicitly incorporating discussion of the distribution and incidence of tax policies?—this, in itself, does not constitute a sufficient justification for treating taxing and spending in isolation from each other here.

It makes sense to study taxing and spending as discrete realms of activity because in most cases they *are* discrete realms of *political* activity. The fiscal policy literature is dense with exhortations that public policy goals currently pursued in the tax system could more efficiently be pursued via direct spending. But in most cases the political process simply does not work this way. The incidence, effect, and distribution of taxes in a society rarely affect, or are affected by, discussions of the distributional effects of public spending programs.

Table 2
Total Tax Burden as a Percentage of GDP, 1985

Sweden	50.5%
Britain	38.1
U.S.A.	28.7

Source: OECD, *Personal Income Tax Systems: Under Changing Economic Conditions* (Paris: OECD, 1986).

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I say rarely and in most cases deliberately. As we shall see, in one case examined here (Sweden), tax and spending choices are explicitly considered together. It is integral to the very argument presented here that the specific decision-making institutions extant in corporatist Sweden encourage the joint consideration of tax and spending decisions. Because these policy arenas are considered together in Sweden, the policy preferences of participants almost inevitably differ from the preferences of policy activists in the United States, the country in which tax and spending decisions are virtually always totally divorced.

Taxation in the United States

It will perhaps be surprising to many to discover that the United States has had a relatively progressive tax structure for most of the past seventy years. Few realize that the U.S. federal income tax has had higher maximum tax rates and lower minimum rates for most of the twentieth century than, for example, Social Democratic Sweden. Moreover, due to the absence of a national consumption tax and the low rates of most state and local sales taxes, the U.S. tax system bears very lightly on those with the smallest ability to pay taxes. On the other hand, inheritance and property taxes have been exceptionally steep in the United States for most of this century.[15] Moreover, the nation has consistently forced corporations to bear one of the heaviest shares of the total tax of any industrial democracy.[16] Finally, the United States, currently at least, taxes capital gains more heavily than any of its democratic counterparts.[17]

But what may be more important than formal tax rates, or even percentage of total tax revenues, for understanding the U.S. tax system (and its problems) are the thousands of exemptions, deductions, credits, minimum taxes, and special rules that litter the tax code. Indeed, these tax expenditures are so significant to the system that they profoundly shape its

[15] The U.S. topped the OECD list in revenue collections (as a percentage of GNP in 1980) in property taxes (except for Britain); inheritance and gift taxes (except for Belgium); and finally, in corporate profits taxes (except for Norway, Canada, Australia, and Japan).

[16] There is much controversy in the fiscal economics literature over where the actual burden of corporate taxation lies. It is a matter of considerable importance for designing reforms of the tax code whether one believes that consumers, workers, or capitalists bear the burden of this tax. But for a political scientist, who is principally interested in understanding why certain taxes have been chosen, the real incidence is of less significance than the perceived incidence on the part of legislators and voters. On this score there can be little doubt that both politicians and mass voters generally believe that corporate taxes are in the end paid by "the rich" who largely own the corporations.

[17] See Arthur Anderson and Co., "Comparison of Individual Taxation of Long-Term and Short-Term Capital Gains on Portfolio Stock Investments in Seventeen Countries" (Paper prepared for the Securities Industry Association, Washington, DC, April 1987).

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very structure. First, the United States loses more revenue via tax expenditures than either of the other two systems I examine. In 1986 the revenue lost via tax expenditures equaled 55.3 percent of total federal outlays (excluding tax expenditures) and 100.3 percent of income tax receipts. Second, due to the huge number and highly specific nature of U.S. tax expenditures, no other tax system comes close to being as particularistic and as complex. There are literally thousands of tax expenditures (perhaps more appropriately called loopholes in this context) that are designed to give tax relief to a specific group, interest, or individual. The resulting complexity helps explain why the U.S. income tax has been called the "Lawyers' and Accountants' Relief Act" (Cedric Sandford); "a house of horrors" (Wilbur Mills); and "a disgrace" (Jimmy Carter).

Tax expenditures exist in all Western democracies, but not all countries have loopholes like the United States. Indeed, tax expenditures are substantially different in each country studied here. In both Britain and Sweden it is quite rare for the tax code to specify particular groups, interests, companies, or individuals; this is quite a common U.S. practice. Moreover, while tax expenditures are found in Britain and Sweden, they tend to be focused on those at the upper end of the income scale, whereas U.S. lower- and middle-income taxpayers also benefit mightily from the revenue committees' willingness to provide exceptions to the tax code. Indeed, in both Sweden and Britain today the vast majority of average income tax payers have so few tax loopholes of which to avail themselves that they do not even fill out tax returns at the end of the year.[18]

The specific distribution of effective tax burdens observed in the United States, then, results in large part from the porosity of the major revenue source—the income tax—and the unwillingness of Congress to impose other taxes that, though regressive, would generate more revenue. This in no way implies that the U.S. system of taxing and spending—when taken as a whole—is particularly progressive. But, in this country at least, taxing and spending are definitely not considered together.

Pluralist Tax Policy Making

When the founding fathers constructed the basic form for the U.S. constitution, they clearly intended to fragment political authority in order

[18] Britain has long had a Pay as You Earn (PAYE) system, in which the employer computes the taxes due for the employee with each pay check. Only in very unusual circumstances will an individual even fill out a tax return at year's end. Sweden has recently converted to a "no return" system, in which the average taxpayer simply signs a statement testifying that he or she has earned no income other than that reported by his or her employer(s). The individual's tax payment is then computed by the tax authorities at the end of the tax year.

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to make it difficult for one faction to impose its will on others. Taxation was a particular worry for them. In perhaps the most critical document in American political history, *Federalist* 10, James Madison wrote:

> The apportionment of taxes on the various descriptions of property is an act which seems to require the most exact impartiality; yet there is, perhaps, no legislative act, in which greater opportunity and temptation are given to a predominant party to trample on the rules of justice. Every shilling, with which they overburden the inferior number, is a shilling saved in their pocket.[19]

It would be too simplistic to argue that U.S. tax policy today is a direct reflection of the institutional structures created over two hundred years ago. Such an ahistorical analysis would do great injustice to the dynamics of the political process and to the potential for political change. A more complete explanation would require a more fully elaborated analysis of the development of American political institutions over time[20] and the dynamic interaction of these institutions and the large, fragmented, and expanding economy.[21] Unfortunately, space does not allow us to delve into this discussion here. Few readers will object, however, to the characterization of the U.S. political process as one in which power is fragmented and authority dispersed. There can be little argument that the United States possesses a "distinctive complex of weak national administration, divided and fragmentary public authority and non-programmatic political parties."[22]

It is these institutional facts that best help us understand the particular tax policy outcomes described above. First let us take the case of the heavy use of particularistic tax expenditures in the United States. The U.S. tax system is not littered with these special amendments because tax policy makers feel that this is a good way to write tax law. Instead, these outcomes are a direct consequence of the fragmentation of U.S. political authority. Whereas tax policy-making powers rest with central government authorities in parliamentary regimes, in the United States it is Congress

[19] See also *Federalist* Nos. 31, 32, and 33.

[20] See for example Steven Skowronek, *Building the New American State* (Cambridge: Cambridge University Press, 1982).

[21] See Walter Korpi and Michael Shalev, "Strikes, Industrial Relations and Class Conflict in Capitalist Societies," *British Journal of Sociology* 30 (June 1979), 164-87. Theodore J. Lowi also presents a particularly relevant discussion of these variables in "Why Is There No Socialism in the United States? A Federal Analysis," in Robert Golembrewski and Aaron Wildavsky, eds., *The Costs of Federalism* (New Brunswick, NJ: Transaction Books, 1984), 37-54, where he offers a compelling argument linking the absence of programmatic parties in the U.S. to federalism.

[22] Margaret Weir and Theda Skocpol, "State Structure and the Possibilities for Keynesian Response to the Great Depression in Sweden, Britain and the United States," in Evans et al. (fn. 3), 136.

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that writes tax law. Congress, moreover, is itself a highly fragmented decision-making institution. Absent programmatic political parties that can decisively influence representatives' electoral fortunes, members of Congress are tied to their local constituencies in a way that makes them uniquely vulnerable to locally defined demands and special interest group pressures. Lacking strong institutional support and linkages to a national party, individual members of Congress become independent political entrepreneurs. This implies that they must seek support for election from groups that are often particularly interested in specific legislative outcomes. Tax amendments are often high on the agenda of these interest groups.

Each year members of the revenue committees are besieged by requests from particular interest groups, or from other members of Congress on behalf of specific interests, for special amendments to the tax code. Because members are dependent upon the support of these same interests for financial and logistic support in their reelection bids, they have a strong incentive to accede to such pressures.[23] For example, Witte reports that of 402 tax expenditures introduced or modified between 1970 and 1981, barely more than 26 percent originated in the administration or with the Internal Revenue Service. The rest were put in the tax code by members of Congress, usually on behalf of some particularly important constituency. Indeed, fully 37 percent of these changes originated on the floor of the House and Senate. "Just as tax politics in general centers on Congress," Witte tells us, "so does the tax expenditure 'problem.' "[24]

Congressional control over tax policy making affects not only the quantity of tax expenditures found in the U.S. tax code, but also their character. This system provides strong incentives for policy makers and interest groups to write very narrow tax legislation. Because political authority is fragmented, it becomes exceptionally difficult to change the basic rules of the tax system, but introducing or amending specific measures to adjust the system on behalf of specific groups can be done relatively easy. Politicians wish to distribute tax benefits for which they can take credit, yet are aware that they cannot give away the bank. Similarly, the incentive structure of this system forces interest groups to fight for particularistic tax measures even when their general ideological positions would tend to favor a more neutral tax system.

Where political authority is more centralized, as in Britain and Swe-

[23] The literature documenting this process is voluminous. See, e.g., John Manley, *The Politics of Finance* (Boston: Little, Brown, 1970) and John Witte, *The Politics and Development of the Federal Income Tax* (Madison: University of Wisconsin Press, 1985).

[24] Witte (fn. 23), 322-24.

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den, highly specialized interest groups generally have less leverage than they do in the United States. Thus to achieve their tax policy ends they are forced to organize into broader coalitions. The tax policy changes they will demand, then, will necessarily be broader and less particularistic. This is not because football teams, chicken farmers, tuxedo rental companies, or individual taxpayers would not like to have special tax measures benefiting their specific interests (as in the United States), but because interests this narrowly drawn are unlikely to have any significant impact on policy makers in a more centralized political setting.

The fragmentation of tax decision-making authority can thus help to explain another of the distinguishing features of the U.S. tax system: the comparatively heavy taxation of the corporate sector. We tend to find this outcome surprising precisely because we know that the pluralist decision-making process yields power to the well organized and well financed. Why have corporations not benefited mightily from this institutional structure? The answer, of course, is that some companies have. The critical difference is that though the U.S. tax system contains literally hundreds of tax instruments designed to benefit quite specific corporate interests and even specific companies, very broad tax write-offs designed to promote corporate savings and investment have generally been much less common than in Europe. Taken together, these specific tax loopholes cost the Treasury less revenue than broadly based tax expenditures designed to benefit corporations or investment more generally. In Sweden and Britain, in contrast, broad-based tax expenditures that benefit the corporate sector are generally quite common. America's relatively limited experience with accelerated depreciation schedules and investment tax credits pales in comparison to Sweden's historic 100 percent first-year write-offs and the Investment Reserve System,[25] or Britain's Investment and Initial Allowance systems.[26] Thus, in the United States there can be remarkable disparities in effective tax rates borne by particular companies even while the corporate sector as a whole bears a relatively heavy burden.[27]

Another major feature of the U.S. tax system is the absence of a national consumption tax.[28] The lack of such a tax contributes mightily to

[25] See Sven Steinmo, "So What's Wrong With Tax Expenditures? A Re-evaluation Based on Swedish Experience," *Journal of Public Budgeting and Finance* 6 (Summer 1986).

[26] See Mervyn A. King, *Public Policy and the Corporation* (London: Chapman Hall, 1977).

[27] For a discussion of efficiency losses in the U.S. tax structure and a specific examination of effective rates by asset type, see Jane Gravelle, *Tax Reform Act of 1986: Effective Corporate Rates* (Washington, DC: Congressional Research Service, 1987). Gravelle finds that before the 1986 act effective tax rates by asset type ranged from 1% to 45%. After the reform they ranged from 12% to 40%.

[28] State, local, and federal governments combined in the U.S. collect less revenue in con-

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both the apparent progressivity of effective U.S. tax burdens and to a comparatively low overall tax burden. But what accounts for the absence of this tax? Again, the answer is rooted in the nation's peculiar political institutions. Several presidents have attempted to persuade Congress of the need for such a tax,[29] as has at least one chairman of the Ways and Means Committee. But each time a tax is proposed it is defeated—even when the president's party has had a strong majority in both houses. This could not happen in a parliamentary system.

And why are calls for a revenue-rich consumption tax routinely defeated in the United States? The answer cannot simply be that Americans traditionally oppose this tax, because Swedes and Britons traditionally oppose this type of taxation as well.[30] In both Britain and Sweden central government authorities have enacted consumption tax legislation *over clear public opposition* because the government felt that this tax was necessary for future revenue commitments. This was clearly the logic that motivated several U.S. presidents and high-level revenue officials to propose similar taxes. In the United States, however, opposition interests have unique opportunities to use the cumbersome institutional process created by Madison and his colleagues to veto revenue proposals even when they come from very popular presidents and their parties. Though these vetoes are usually blamed on the wealthy, the corporations, or other special interests (i.e., their vetoes prevent the closing of their loopholes), it is also true that liberal interests and Democratic Party politicians have veto powers. This power has repeatedly been used to prevent the introduction of a national sales tax and the broadening of the tax base.

While one could argue that in the long run revenues raised from a consumption tax or broader tax base would be good for the constituents of the Democratic Left, the fragmentation of authority in the United States leads politicians and interest groups to look at the short rather than the long run. An example will help illustrate this point. In 1985 and 1986, nearly thirty liberal tax policy activists were interviewed on their opinions as to whether the United States should follow Sweden's lead and introduce a value added tax. The answer was nearly always the same. To quote one aide to a prominent liberal senator: "It doesn't matter what they do in Sweden. That's a different political world. This is America,

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sumption taxes than in any OECD nation (5.2% of GNP in 1985). The OECD average is 11.2%. General sales taxes contribute only 2% of GNP in the U.S., whereas the European Economic Community average is more than 6%.

[29] Witte (fn. 23).

[30] See, e.g., Axel Hadenius, *A Crisis of the Welfare State? Opinions about Taxes and Public Expenditure in Sweden* (Stockholm: Almqvist and Wicksell, 1986).

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and no one can guarantee me that the money taxed out of the grocery bills of American workers will ever be used to benefit those same workers. How am I to know whether that tax money will be used for social spending or for more waste at the Pentagon?" A congressional aide reported: "We don't have a deficit problem because our tax system is too easy on workers. Our problem is that we spend too much on the military and that the rich don't pay their fair share."[31]

No matter how persuasive the arguments of academics, economists, Treasury officials, and even presidents that the revenue generated via broader-based taxes could or would be used for such redistributive programs as welfare or health, congressmen respond "not on my constituents you won't." This response is conditioned by the basic fact that they can be held personally responsible for voting for tax increases while they may find it difficult to take credit for popular spending programs.[32] Moreover, the fragmentation of political responsibility in Congress allows politicians simultaneously to support popular spending and oppose unpopular tax increases even while in office.

In sum, Madison's fragmented political institutions provide a profoundly important variable for explaining the complexity, low revenue yield, and ultimately the distribution of effective tax in the United States. The diffusion of political authority and responsibility, and consequent openness to particularistic demands, has encouraged policy activists to pursue their objectives via narrow interest group organizations and to define their objectives as narrowly as possible. Lacking central authority to which to defer, politicians are uniquely vulnerable to these particularistic demands. Since no one is in control, accountability is missing, and it becomes nearly impossible for politicians, interest groups, and bureaucrats to pursue long-range objectives. I have found no evidence to suggest that politicians and/or interest group activists prefer a complex, loophole-ridden tax system. But in the context of the American political structure they continue to circumscribe their policy objectives in ways that have some hope of legislative success.

Barber Conable, when a congressman, explained how the American tax code had developed:

> Nobody started out with the idea to make a complex tax system. In the early 1920s, the system was simple and comprehensive. Maybe a lot of things were not taxed, but at least everybody was taxed about the same way. Then we found that we had a complicated economy, and that the tax code

[31] Interviews with author, May 1987.

[32] See Anthony Downs, "Why the Government Budget Is Too Small in a Democracy," *World Politics* 12 (July 1960), 541-63.

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was unfair to some people, so we made exceptions, and then we made exceptions and exceptions.[33]

The 1986 tax reform, despite its image as a major simplification of the tax code, well illustrates the arguments made above. Indeed, the extent to which the new tax system is distinguished by the same characteristics as the old, despite the radical and comprehensive character of the reform, is nothing short of remarkable.

We have no space here for an elaborate discussion of the 1986 reform, but it yields several useful observations. First, the major policy consequences of the act were to make the tax system *more* progressive than the one it replaced, though clearly not as progressive as many would have liked (see Table 3).

Second, we saw that the United States was distinctive for the heavy tax burden borne by the corporate sector. The reform increased this burden by $120 billion.[34] It is significant that the single largest revenue enhancement on the corporate side was the elimination of the investment tax credit—a general tax expenditure available to a wide variety of corporate interests. Third, the new tax system is even more complex than the one it replaced. Fourth, though a large number of tax loopholes were removed, the U.S. tax system remained radically more particularistic and complex than the others I examine.[35] Lastly, even though the U.S. national government faced a $2 trillion debt and an annual public deficit of nearly $200 billion, the new tax law raised no new revenue.

Taxation in Sweden

Contrary to expectation, the Swedish tax system is not distinguished by steep progressivity up the entire income scale, nor by heavy-handed treatment of capitalist or capital income. Instead, the hallmarks of the Swed-

[33] Quoted in Charles Daley, *Tax Cuts and Tax Reform: The Quest for Equity* (Washington, DC: American Enterprise Institute, 1978), 20.

[34] Corporate taxes are expected to rise from 8.2% of total federal revenue in 1986 to 11% by 1988. Thus the corporate tax share of total taxation will be close to the pre-Reagan levels (in 1980 the share was 12.5%). See Congressional Budget Office, *Economic and Budget Outlook: Fiscal Years 1989-93* (Washington, DC: CBO, February 1988). According to Fullerton and Karayannis' model, the marginal effective tax rate on capital income increased from 23.5% in 1981 (which was down from the rate before the Economic Recovery Tax Act of 37.3%) to 42.1% in 1986. See Don Fullerton and Marios Karayannis, "The Taxation of Income from Capital in the United States, 1980-1986" (Paper presented to the International Conference on the Cost of Capital, Cambridge, MA, 19-21 November 1987), Tables IV.1, IV.2, and IV.6.

[35] An incredible array of particular interests (from sports teams to certain Indian tribes to the Gallo wine-making family) received special tax favors in 1985 and 1986. For a general analysis of the effects of the 1986 tax reform on tax expenditures see Congressional Budget Office, *Effects of Tax Reform on Tax Expenditures* (Washington, DC: CBO, March 1988).

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TABLE 3
ESTIMATED CHANGE IN U.S. TAX BURDENS IN 1988 BY INCOME BRACKETS

Income Class	*Change in Personal Income and Corporate Income Tax Burdens*	*Change in Total Federal Tax Burdens*
Under $10,000	−32.0%	−12.5%
$10,000-20,000	−8.1	−3.1
$20,000-30,000	−4.1	−1.8
$30,000-40,000	−4.1	−2.0
$40,000-50,000	−6.1	−3.1
$50,000-70,000	+0.7	+0.4
$70,000-100,000	+5.3	+3.9
$100,000-200,000	+6.0	+5.0
$200,000 and above	+9.2	+8.2

Source: Henry Aaron, "The Impossible Dream Comes True: The New Tax Reform Act," *Brookings Review* 5 (Winter 1987), Table 4.

ish tax system are its broad base, its high revenue yield, its comparatively generous treatment of corporate and capital income, and its heavy taxation of ordinary workers.

The Swedish tax system reaches very deeply into everyone's pockets, but tries to avoid taxing the investment potential out of the society's capitalists. As a consequence, Swedish authorities have built a broad-based tax system that finances economic redistribution while eschewing the use of symbolic punitive tax rates. "Ironically," Rose and Peters note, "taxes are least progressive in Sweden [of all OECD democracies examined] because of the high level of tax paid by ordinary workers."[36] A few examples are illustrative. Sweden bears the dubious distinction of having the heaviest and most regressive consumption tax in the world. The Swedish VAT taxes virtually all goods and services at a flat rate of 23.46 percent, exempts virtually nothing (not even food or clothing), has no reduced rates, and has no specially high rates for luxury goods.[37] The Swedish income tax, similarly, has a much broader base and fewer exemptions or deductions for the average worker than do either the British or U.S. income tax

[36] Richard Rose and Guy Peters, *Can Governments Go Bankrupt?* (New York: Basic Books, 1978), 99.

[37] See Enrique Rodriguez and Sven Steinmo, "The Development of the American and the Swedish Tax Systems: A Comparison," *Intertax*, 1986/3. Of all OECD countries, only Denmark, Norway, and Sweden have no reduced rates for basic necessities. Denmark, Germany, Ireland, Luxembourg, Norway, Sweden, and (currently) Britain have no special high VAT rates on luxury goods.

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systems.[38] Additionally, the social security tax (which is paid for workers by employers) is almost three times heavier for Swedish workers than it is for either British or U.S. workers.[39]

The paucity of tax expenditures available to workers with average and lower wages has broadened the base of the Swedish tax system and thus has substantially increased tax revenues. However, these same measures have pulled the tax system away from the traditionally important goal of ability to pay, or what Americans would simply call fairness.[40]

At the other end of the scale, however, the Swedish tax system appears less onerous. A 1974 study of the income tax system in Sweden found that "the concept of global progressivity has to be qualified by the fact that the distribution takes place mainly between taxpayers in the middle and low income brackets. That is, tax redistribution has affected basically income concentration beneath a certain level. The redistribution process has 'spared' the highest incomes."[41]

The taxation of the very wealthy in Sweden differs from the taxation of average income earners because capital income receives much more favorable tax treatment than does earned income. This does not necessarily imply that the rich as a group do not pay taxes in Sweden. On the contrary, as a group the rich bear a heavier tax burden than do either their British or U.S. counterparts. Swedish taxes are often blamed when entertainers, movie directors, and tennis players emigrate. Owners of large manufacturing interests, in contrast, are much less inclined to leave Sweden because of heavy taxes.

The key here is that the Swedish tax system has been used to encourage the use of capital (because this contributes to growth and jobs) while taxing stagnant wealth very heavily.[42] The wealthy are able to shield their wealth and income from tax authorities in Sweden by refraining from consuming that wealth and instead placing it in the economy's active working capital stock. In Britain in particular, and the United States to a

[38] Aguilar and Gustafsson also find that, as measured by the Kakwanis index, Sweden has the least progressive income tax system of the eight they study. On the other hand, Sweden has the most progressive income distribution. See Renato Aguilar and Björn Gustafsson, "The Role of Public Sector Transfers and Income Taxes: An International Comparison" (Working Paper, Luxembourg Income Study, April 1987).

[39] The Swedish social security tax is less regressive than the British and U.S. equivalents, however. While both the British and U.S. versions have a ceiling, the Swedes tax all earned income at the same rate, but capital income is exempt.

[40] Gustav Lindencrona, "Skatteformagaprincip och individuel beskattning" [The principle of ability to pay and individual taxation], in Lindencrona, ed., *Festskrift til Jan Heller* [Festschrift for Jan Heller] (Stockholm: Norstedt, 1984).

[41] Eduardo fayos Sola, "The Individual Income Tax and the Distribution of Its Burden: The Swedish Case" (Thesis, University of Stockholm International Graduate School, 1975), 152.

[42] Stagnant wealth refers to wealth that is consumed or saved in nonproductive holdings such as jewelry, large estates, etc. See Steinmo (fn. 25).

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somewhat lesser extent, the tax system encourages conspicuous consumption on the part of the rich.[43]

Swedish corporations are well treated by any standard, though Swedish formal tax rates on corporate profits do not traditionally differ much from those found in the United States and Britain. Effective tax rates for large, successful Swedish corporations, on the other hand, are very low by international standards. According to the Swedish Department of Industry, the average tax burden borne by Swedish industrial firms in 1981 was between 3 and 13 percent of profits. Jan Södersten has recently recalculated the effective marginal tax rate on capital using King and Fullerton's model and concluded that considering corporate taxes alone, the overall marginal tax rate in 1985 was between 0.2 percent and minus 2.6 percent depending on the rate of inflation.[44] "One of the secrets of the Swedish economy is that governments have looked to major corporations to create wealth," Pehr Gyllenhammer, chairman of Volvo and one of Sweden's most powerful industrialists, reported in a recent interview. "There is greater freedom for large corporations in Sweden," he added, "than in the U.S."[45]

Taken together, the numerous mechanisms available to corporate investors in Sweden create a bias in favor of expanding profitable firms with large inventories and/or depreciable assets. It has long been the aim of the government to promote successful corporations and to encourage them to stabilize their investment patterns. Normann and Södersten have shown, for example, that for fifty-one industrial companies examined between 1963 and 1968 effective tax rates and inventory size were negatively correlated. Moreover, expansion rates were positively correlated to both profitability and inventory size, and inversely correlated to the effective tax rate. Finally, and perhaps most surprisingly, profit rates and effective tax rates were inversely related.[46]

[43] See John Kay and Mervyn A. King, *The British Tax System*, 3d ed. (Oxford: Oxford University Press, 1983).

[44] Södersten, "The Taxation of Income from Capital in Sweden" (Paper prepared for the International Conference on the Cost of Capital, Cambridge, MA, 19-21 November 1987). One must remember, however, that the general equilibrium model calculates rates *at equilibrium* and therefore does not necessarily represent an accurate picture of rates paid currently by real corporations. See also Michael McKee, and Jacob Visser, "Marginal Tax Rates on Capital Formation in the OECD" (Paper presented at the same conference). McKee and Visser also conclude that marginal tax rates on capital income are substantially higher in the U.S. than in Sweden, but rates range very widely according to asset type and distributions. According to these authors, effective tax rates can range from 87.5% to minus 169.2% at average inflation in Sweden depending on the source of capital, distribution, and type of investment. In the U.S. the rates could range from 94.8% to minus 131.2% at average inflation.

[45] Quoted in Steve Lohr, "Sweden: Home of Tax Reform, Arms Scandals and a Strong Defense," *New York Times*, September 6, 1987.

[46] See Göran Normann and Jan Södersten, *Skattepolitik resursstyrning och inkomstutjämning* (Tax policy, resource allocation and income leveling) (Stockholm: I.U.I., 1978), 184.

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In sum, the Swedish tax system encourages the concentration of economic power while it discourages the conspicuous display of wealth. Sweden, in effect, redistributes consumption, not production.

The particular distribution of effective tax burdens for Sweden, then (see Figure 1) is the consequence of a political-economic logic designed to promote stability, economic efficiency, high investment, and growth while concomitantly financing the world's most generous welfare state.

Corporatism and Tax Policy Making

The somewhat counterintuitive structure of the Swedish tax system cannot be explained by a strangely inegalitarian political culture, nor by the presence of popular attitudes favoring capitalists and corporations. Nor does it make sense to describe the Swedish political system as one in which capitalist interests have been politically strong while working-class interests have been weak. Instead, Sweden has developed a remarkably coherent policy-making system in which representatives of labor, business, and the state come together and bargain on a broad array of political-economic policies. The "corporatist" structure provides the context in which these groups define their tax policy goals and has encouraged them to select tax policy objectives that would be quite impossible in a less stable, or less centralized, institutional setting.

The decision-making models observed in Britain and the United States are linked to the structure of electoral representation in these countries. Similarly, in Sweden the development of corporatist institutions depended upon a particular constitutional format, namely, proportional representation.[47] By the time universal suffrage was finally introduced in Sweden (1918), it was clear to the ruling conservative bureaucratic elite that a single-member-district, first-past-the-post, winner-take-all electoral system would doom them to electoral insignificance. Proportional representation, then, was seen as a way for this numerically small group to retain some degree of power in the face of obviously hostile and increasingly organized middle- and working-class interests.

Proportional representation frames the structure of political conflict in Sweden in two ways. First, it is largely responsible for the remarkable stability of Swedish national governments. Second, it has forced the dominant political party, the Social Democrats, to rule either as a minority or in a coalition government, even though in the thirteen national elections

[47] Proportional representation is a necessary but not sufficient prerequisite for the development of societal corporatism. A high degree of economic concentration seems also to be a prerequisite.

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between 1932 and 1973 they received between 41.7 percent to 50.3 percent of the popular vote. They achieved majority status in the Riksdag (Parliament) on only two occasions in this period. These popular vote figures do not substantially differ from those of the British Labour Party during the same period. The Labour Party, however, has been completely shut out of government for more than half the years since World War II.

These basic structural facts fundamentally shape Swedish tax policy decision making because they are the institutional context in which labor, business, and state officials have defined their policy preferences and strategic objectives. As far back as the 1930s, the Social Democrats realized that the electoral structure would prevent them from gaining the sustained majority in the Riksdag necessary to implement most of the redistributive tax policies suggested in their campaign rhetoric and party platforms. It would therefore be necessary for them to find new mechanisms for achieving their general objectives of getting reelected and improving the standard of living of their constituents.

Ernst Wigforss, party theoretician and finance minister from 1932 to 1949, put the party's position in the following way:

> Expressed without euphemisms this means, on the one hand, that those who have power over larger or smaller sectors of the private economy do not base their actions on the assumption that the current tendencies in government are a transitory phenomenon, that a political change will take place within a future near enough that a discussion based on the possibility of concessions, accommodations and compromises becomes unnecessary. On the other hand, it also means that the representatives of political power admit the necessity of maintaining favorable conditions for private enterprise in all those areas where they are not prepared without further ado to replace private enterprise with some form of public operations.[48]

Because authority in Sweden is not fragmented, as in the United States, decision-making power is not diffused, and the government has the power to include or exclude groups and interests from the policy process. But because the government has no majority in the Riksdag, it is forced to seek out compromises and design policies that interests outside the elite of the Social Democratic Party can live with. Thus, the government can dominate, but not predominate in, the policy-making process.

Due to the highly concentrated and centralized structure of Swedish business and labor, which are consequences of Sweden's late development and of specific party policies, Social Democratic governments have had the luxury of being able to consult with a very small group of interest group officials in their attempts to attain their general policy objectives.

[48] Quoted in Korpi (fn. 1), 48.

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Elites of these large, hierarchically structured, noncompetitive interest groups could then be incorporated into and given exclusive access to state policy making. As a result, Swedish tax policy makers are neither as distanced from technical expertise outside the government as are the British, nor as swamped by the multitude of different interests that plague the U.S. legislator.

This process provides a forum in which all sides are able to compromise on specific issues because a wide set of issues of concern to them are integrated. The technical experts attempt to find technical solutions to particular problems—solutions that will not impinge negatively on the interests of the other members of the tripartite coalition. This deliberative decision-making structure facilitates long-range planning and encourages technical experts to become policy initiators. I will cite but two examples. In the late 1930s big industry, represented by the Swedish Employers Federation (SAF), asked the government to implement a series of tax breaks that would discriminate in favor of large and successful companies (and thereby discriminate against small, new, or less profitable companies).[49] The Social Democratic government granted the request (in the form of Investment Reserves, Inventory Reserves, and 100 percent first-year depreciation write-offs) in exchange for a survey of private business investment plans and tacit approval of a major expansion of the unemployment insurance program, which was to be administered by the central labor union confederation (LO). Additionally, both sides agreed to a new format for the resolution of labor disputes, thus reducing the occurrence of strikes and lockouts.

In the late 1950s, similarly, the Minister of Finance Gunnar Sträng was convinced by two economists from the LO research department that if Sweden was to continue the expansion of the welfare state, new sources of revenue would be needed given increased opposition to heavier income taxes from both industry and the voters.[50] They advocated the implementation of a national sales tax. Such a tax, however, was vehemently opposed by the labor unions and a majority of Social Democratic voters. But after a year of negotiations with labor union leaders, however, Sträng gained their approval for the new tax by promising that he would quickly expand social spending and in particular initiate a massive program of public housing construction. Labor union members and Social Demo-

[49] These policy ideas were originally suggested by economist Erik Lindhal, who advocated them in a Swedish government research report in the late 1920s. SOU: 1927:33, *Promemorior rorande vissa beskattnings fragor av 1927 are skatte beredning* [Memorandum concerning certain tax questions of the 1927 tax commission] (Stockholm: SOU, 1927).

[50] The information in this section was provided by Gunnar Sträng (minister of finance from 1956 to 1976) in an interview with the author, May 1983.

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cratic voters still largely oppose the sales tax, but they do not have the multiplicity of access points necessary to translate this opposition into a veto.

Each of the examples above aptly illustrates some of the main dynamics of Swedish tax policy development. In the context of the highly stable electoral outcomes in Sweden, all groups must calculate their objectives as if the Social Democrats will be in power for a considerable time. Thus both business and labor interests are willing to cooperate in ways that would be anathema in either the United States or Britain. At the same time, the Social Democrats know that they too must compromise given their near-perpetual minority government status. The result is a broadly based, financially lucrative tax system that carefully generates maximum revenues while impinging on Sweden's capacity for economic growth and profit generation as little as possible. Efficiency and revenue-yield considerations permeate the system as a whole.

In sum, the distribution of tax burdens described above is not a contradiction in the Swedish context. The specific tax policy preferences of business, labor, and Social Democratic elites appear perfectly rational when we consider the institutional context in which these preferences are derived. Again, the Swedish case yields yet another example in which policy choices are not simply constrained in different ways by different institutional contexts; instead, *policy preferences differ in different institutional settings*. Political institutions provide the boundaries within which rational actors form their preferences, thus they are integral to the very preferences themselves.

Taxation in Britain

The instability of British taxes and the lack of coherence between various parts of the revenue structure are the major hallmarks of the British tax system. Not only are various revenue sources changed with dizzying frequency, but changes in one tax are generally wholly unrelated to the structure of problems of other parts of the tax system. Indeed, the fiscal incoherence of the British tax system and the speed with which it changes make it very difficult to describe. As James and Nobes have observed, "one of the most noticeable characteristics of the British tax system is that it is under continual change. Writing about it is very much like trying to hit a moving target."[51]

But instability and incoherence are very difficult characteristics to ver-

[51] S. James and C. Nobes, *The Economics of Taxation* (London: Philip Allen, 1981), 135.

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ify empirically without a detailed examination of the entire tax structure. Clearly there is no space for such an examination here. While there are certainly dozens of British tax experts and fiscal economists who have decried the instability of the British tax system, this does not definitively prove that their tax system is worse off in this respect than the American, for example. After all, Congress is forever manipulating existing taxes and adjusting the tax code for the benefit of particular constituencies. The difference is that in Britain major changes in specific taxes are quite common and can have fairly profound effects on both the distribution of the tax burden by income class[52] and upon gross revenue totals. In their detailed statistical analysis of the dynamics of the British revenue system, Rose and Karran find that "there is no similarity between aggregate patterns and specific taxes, no collective homogeneity, nor is there absolute or relative stability. . . . When taxes are compared with each other, virtually every test shows that the collective pattern is heterogeneous, not homogeneous. The most striking feature of taxes in Britain is the extent to which they differ."[53]

Without going into great detail, some specific examples of the nature and frequency of the many tax changes made in particular revenue sources in Britain can be instructive. Capital gains taxation, for example, was not introduced until 1965 but was then "reformed" in 1972 and again in 1977 and 1982. The corporate profits tax was first introduced in 1965, and major revisions were introduced in 1972, 1976, and 1983. The VAT was introduced in 1973 (replacing the purchase tax in the same year) and has been "reformed" four times since then. The Selective Employment Tax was created in 1966 and removed in 1973. And the Capital Transfer Tax was introduced in 1976 and reformed to the point of irrelevance in 1980.

The treatment of the corporate sector since World War II provides a particularly good example of the turbulence of British taxation policy. Until 1965 corporate income was taxed under the individual income tax code at the standard, or basic, rate. (This rate was changed five times between 1945 and 1964.) But in addition to this tax, companies were required to pay additional profits taxes on distributed and retained profits. Retained profit tax rates were changed eight times between 1947 and 1964. Distributed profits tax rates were also changed eight times in these

[52] See Oliver Morrissey and Sven Steinmo, "The Influence of Party Competition on Post-War UK Tax Rates," *Politics and Policy* 15, No. 4 (1987).

[53] Richard Rose and Terrence Karran, *Increasing Taxes? Stable Taxes or Both? The Dynamics of United Kingdom Tax Revenues Since 1948*, Center For the Study of Public Policy Monograph No. 116 (Glasgow: CSPP, 1983), 37.

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seventeen years (but not necessarily in the same eight years). Finally, until 1951, profits taxes were allowable as a deduction against income taxes.[54]

But in addition to the changes in nominal tax rates, British companies were also subjected to numerous tax policy alterations that directly affected the tax treatment of capital investment between 1945 and 1964. Various governments introduced, repealed, increased, and decreased a wide variety of investment allowances, initial allowances, and direct grants for investment. According to the Hansard Society, thirty-eight different changes were made in these various forms of investment subsidies between 1945 and 1972.[55]

In 1965 a separate corporate income tax (somewhat similar to the systems in effect in Sweden and the United States) was introduced by the Labour government. Mervyn King described the history of corporate taxation in the following way:

> The UK experience in the use of taxation to influence corporation behavior is unique. Four major reforms [now six] of the corporate tax system have taken place since the war, the most recent being 1973 [subsequently 1976 and 1984] and tax rates have been altered at frequent intervals. A good illustration of this is afforded by the excitement generated amongst American economists in the 1960's by the investment tax credit and the attempts to assess its effects. A British economist would have shrugged this off as a mere trifle, compared to the changes he had witnessed over the years.[56]

Finally, in 1984, the Conservative government introduced another major overhaul of the taxes on corporations that substantially reduced many of the investment write-offs available to British companies. Thus, surprisingly, the Conservatives substantially increased effective tax rates for British companies and, moreover, substantially increased the tax yield of this revenue source (see Figure 2).

The taxes mentioned above are not unique in Britain. The characterization of the British tax system as unstable, inefficient, and lacking fiscal coherence could go on. Dilnot and his coauthors, for example, bluntly introduced their examination of the British social security system as "another British failure" due to the complex interaction of payments and

[54] See King (fn. 26), 258-59.

[55] The student of U.S. tax policy history may be unimpressed. In the U.S. there may be even more specific changes in tax provisions affecting various types of investments in particular industries, particular products, or particular companies in a single year. The difference, however, is that these changes in the British system were quite general and affected all industry—not just particular firms or types of industries as is common in the U.S. Specific changes were also made during these years in favor of particular industries in the U.K. But these were in fact fewer in number than the general changes listed above.

[56] King (fn. 26), 5-6.

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benefits, their incoherence, and their inefficiency.[57] They show, for example, that due to the complex and ill-planned interaction of social security and income tax in Britain many low-paid workers pay marginal tax rates *in excess* of 100 percent. This means that as their nominal wage increases their standard of living must decrease. Similarly, the histories of consumption taxation, death taxes, and capital gains taxation have also shown these revenue sources to be tumultuous and instable.[58]

Virtually every government since World War II has changed tax rates affecting income from savings, investment, social security, and death. Additionally, special provisions have been introduced, expanded, contracted, or repealed for broad constituencies by means of surtaxes, investment surcharges, reduced rates, housekeepers' deductions, Child Relief, Earned Income Credit, Personal Relief, and Old Age Relief, to name but a few.

Table 4 shows how income tax policies made between 1946 and 1975 have affected the personal disposable income (PDI) of several income groups during this period.[59] We see, for example, that tax changes made by both parties reduced the PDI of those in the £100,000 income class by 28.9 percent. Each time the Labour Party entered office, however, it substantially raised income taxes for this group (thus decreasing PDI). But Labour's actions were largely counteracted by Tory tax policies that substantially reduced income taxes for this and all income groups.

Looking back to Figure 1 we see a picture in which no clear pattern emerges.[60] By some measures the system could be considered regressive, by others it could be seen as somewhat proportional. What is most noticeable is that tax rates can go up *or down* as income rises, depending upon the income level. This pattern is not the choice of any particular government. Rather it reflects the layering of different policy preferences by different governments as they each take office in turn. The result is summarized by Kay and King: "The present state of the British tax system is the product of a series of unsystematic and ad hoc measures, many

[57] Andrew Dilnot, John Kay, and Nick Morris, *The Reform of Social Security* (Oxford: Clarendon Press, 1984), 1.

[58] See Morrissey and Steinmo (fn. 52). See also Anne Robinson and Cedric Sandford, *Tax Policy Making in the United Kingdom* (London: Heineman, 1983).

[59] I use PDI statistics because they encompass a whole range of changes in the income tax, including tax rates, exemption levels, and personal deductions.

[60] It should be noted here that the British figures must be viewed with some caution. Due to the profound secrecy with which British governments view tax information, no direct examinations of tax returns are possible as in the U.S. and Swedish cases. Joseph Pechman's data were derived by applying British taxes to the distribution of incomes found in the Brookings merge file (see Joseph Pechman and Benjamin Okner, *Who Bears the Tax Burden?* [Washington, DC: The Brookings Institution, 1974]). This is not an ideal approach, but it is the only study of total effective tax burdens in the U.K. available.

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TABLE 4
CHANGE IN PDI BY PARTY IN POWER, SINGLE PERSON, U.K., 1946-1975

	Income				
	Earned			*Investment*	
	£2,000	£5,000	£10,000	£20,000	£100,000
Labour	3.0%	−12.0%	−25.9%	−55.0%	−139.5%
Conservative	20.7	56.2	88.5	83.0	110.6
Total	23.7	44.2	62.6	28.0	−28.9

Source: Morrissey and Steinmo (fn. 52).
Note: Table gives cumulative change in disposable income from 1946 base level, i.e., total change in disposable income relative to the base year taking all the years in office of each party into consideration.

undertaken for excellent reasons—for administrative convenience or to encourage deserving groups and worthy activities—but whose overall effect has been to deprive the system of any consistent rationale or coherent structure."[61]

PARTY GOVERNMENT AND TAX POLICY

It is the British constitutional structure that provides the framework for understanding the country's particular tax policy outcomes. With her winner-take-all, single-member district elections, in the context of a highly centralized political structure, Britain has developed a political process often characterized by the term "party government." Finer has aptly described party government in the following way: "Our system is one of alternating single party governments."[62]

Power is more centralized in party government than it is in either pluralism or corporatism because the electoral structure on which party government is based generally insures that one party will have exclusive control over the government. The electoral system produces a majority for one party in Parliament even when that party has received substantially less than a majority of votes from the electorate. It also makes it exceptionally difficult for third parties to compete successfully. Finally, the institution of strong party discipline under party government further centralizes power in the hands of central government elites in general and the prime minister specifically. All parliamentary systems rely on party discipline, and in all cases this yields great power to those at the top of the

[61] Kay and King (fn. 43), 18.
[62] Sam Finer, "Adversary Politics and Electoral Reform," in Finer, ed., *Adversary Politics and Electoral Reform* (London: Anthony Wigram, 1975), 6.

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hierarchy. It is perhaps an exaggeration to call the British Parliament a rubber stamp, but in comparison to the United States, at least, this characterization does not seem too widely off the mark.

These basic structural features of British party government fundamentally frame the policy preferences and strategic choices of all participants in the policy-making process. Whereas the fragmentation of political authority in the United States facilitates particularistic interest group politics, and the potential stalemate of Sweden's electoral structure encourages compromise, the centralization of national political authority in Britain allows governments to act on their electoral platforms no matter how ill-conceived or antagonistic to the opposition's interests.

First, governments, once elected, have *exclusive* decision-making authority. Though governments can, and sometimes do, consult with interests outside the party when formulating policies they are in no way required to do this, for they are virtually guaranteed passage of the final legislation no matter which groups approve or disapprove.[63] Because the government does not have to consult extensively, it seldom does. Indeed, it is often argued that the government rarely consults with its own party members before initiating major policy initiatives.[64]

Second, because the opposition is fundamentally excluded from the policy-making process it is rarely in touch with the details of current tax policy and is rarely aware of the complications and problems that will result from further changes. Instead, having spent the last several years arguing that everything the current government has done is either incompetent or pernicious, the opposition promises its constituents that it will reverse these evils as soon as it wins the next election. "The hot competition of party politics has fostered the desire to introduce party differences and has afforded little incentive to analyze basic objectives, to assess possibilities and costs in the form of sacrificed alternatives."[65]

When a new government takes office, then, it is under pressure to

[63] In fact only the topmost elite within the party and the Treasury have any say in tax policy formation. "Revenue changes are solely a tool of macro-economic management considered separately by the Treasury, and announced to the cabinet by the Chancellor in practice for information, not approval—just before the Budget is publicly presented in March or April"; Hugh Heclo and Aaron Wildavsky, *The Private Government of Public Money*, 2d ed. (London: Macmillan, 1981), 179-80.

[64] An example of this can be found as recently as 1984 when the Thatcher government announced on budget day that they would substantially restructure the corporate income tax system. Until that day in March no one outside a very small group of Treasury officials and the prime minister even knew that a reform of the corporate tax system was under consideration. Even the head of the Conservative Party's research department, Peter Cropper, did not know that a corporate tax reform was in the offing until he heard the budget speech on the radio that day.

[65] T. Wilson, "The Economic Costs of the Adversary System," in Finer, ed. (fn. 62), 112.

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demonstrate that it is different from, and better than, the government that it replaced. Labour must demonstrate its redistributive commitment (that they will indeed "squeeze the rich until their pips squeak") and the Tories must show how they will unleash market forces and undo the harm to capital inflicted by the last Labour government. But tax systems are complicated affairs, and serious reform takes substantial analysis. Such analysis takes time. Time, unfortunately, is in short supply for governments that have made strong policy promises while campaigning for election.

When the opposition becomes the government it has the legislative power to act out its mandate. The government is pressed to fulfill the promises they made in the heat of the campaign even when better judgment would have them move in other directions. In both U.S. pluralism and Swedish corporatism governments *must* compromise their ideology and policy platforms simply because they need the votes to achieve legislative success. In the British party model, the government always controls a majority of the votes in Parliament. If the government does compromise, it is quickly attacked both by those within the party and also by the opposition for having taken a "U-turn." In short, the British electoral system presents British governments with strong incentives to act on their campaign promises even when these commitments were made with little analysis and though scarcely any attention was paid to their effects on the tax system as a whole.

The very logic of my argument here evokes an interesting puzzle. If British governments are less constrained by opposition political forces than Swedish or U.S. governments, what explains the lack of coherence in the British tax system as a whole? Presumably, British governments could simply rewrite the entire tax code and thereby make it even more coherent than the Swedish or U.S. systems. The answer to this puzzle is in part answered in Rose and Karran's recent book, *Taxation By Political Inertia*.[66] In this interesting analysis of the political and economic dynamics of British fiscal policy these authors remind us that while British governments may be less constrained by Parliament than their Swedish and U.S. counterparts, this does not suggest that British governments are wholly unconstrained in their policy choices. There are very strong incentives in any polity to continue to use the revenue system inherited from past governments. Moreover, large-scale restructuring of the tax system involves huge investments of resources (political, intellectual, and financial), whereas the political benefits of such restructuring may be

[66] Richard Rose and Terrence Karran, *Taxation By Political Inertia: Financing the Growth of Government in Britain* (London: Allen and Unwin, 1987).

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quite marginal if not negative. Most governments, most of the time, are faced with far more immediate problems than that of an incoherent tax structure. Their reluctance to tackle the monumental task of rationalizing the tax system is perhaps further exacerbated by the fact that some of the government's own tax policies may prove to be somewhat less than rational. In sum, from the politicians' point of view the costs outweigh the benefits of truly restructuring the entire tax system. Better, it could be argued, to "fringe tune,"[67] to use taxation as a symbolic issue in which major changes are made in specific taxes, and, finally, leave the technical issues to the bureaucrats.

But, of course, the policy perspectives of bureaucrats are also shaped by the institutional environment in which they live. Whereas in both the United States and Sweden, Treasury or Ministry of Finance officials have taken quite activist positions with respect to reforming and rationalizing their respective tax structures, British officials have developed a culture of agnosticism. This reticence actively to pursue a reform program is not a product of ignorance or even apathy on the part of British officials.[68] Instead, they live in a quite unique institutional environment that discourages policy activism and encourages policy neutrality. In Sweden, in particular, decades of political stability and single-party dominance have engendered the development of a very active administrative class.[69] This activist position has been fostered, in part, by the perpetual minority status of Social Democratic governments. In this context, ambitious bureaucrats with workable ideas have been strongly encouraged by their political masters.[70] Similarly, in the deadlock of U.S. government by committee, talented fiscal policy experts have often been brought into the Treasury or the Joint Tax Committee to help politicians find technical solutions for profoundly complex tax policy issues. Again, in this context the system rewards innovative and talented officials and their ideas.

In Britain the situation is quite different. Under party government a new election can bring in new political masters who have radically different policy views from those currently in government. The ambitious British official who pursues reform initiatives could well find his ideas are perceived to be on the wrong side of the political fence come the next elec-

[67] Ibid., 148.

[68] See, for example, *The Eleventh Report of the Expenditure Committee Session 1976-77*, House of Commons Papers 535-I (London: HMSO, 1977).

[69] Cf. Thomas Anton, Claes Linde, and Anders Mellbourn, "Bureaucrats in Politics: A Profile of the Swedish Administrative Elite," *Canadian Public Administration* 16, No. 4 (1973), 638-39.

[70] In fact it is quite common for talented young officials to be promoted from the supposedly apolitical civil service directly into political positions within the Ministry of Finance.

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tion. In this context, the rational behavior for officials as a group has been to keep a low profile. This system tends to reward those officials who follow the dictates of their political masters, not those who have ambitious reform ideas of their own.[71]

Finally, because the hands that hold the reins of government can change so dramatically from one year to the next, it is rare for ministers to get to know and trust their official advisers in such a way as to develop the close relationships common in Sweden and (but to a somewhat lesser extent) the United States as well.[72] Dick Taverne describes this as one of the major problems he faced when in the Treasury for the Labour government that took office in 1964. "Indeed, the [Inland] Revenue proved itself expert at showing that all solutions other than their own were utterly unworkable and totally misconceived."[73] This does not mean that the new government's proposals will not be passed, just that they do not necessarily get the whole-hearted support of the technical experts who must translate the general policy aims into specific language.[74] On the other hand, this mutual skepticism means that otherwise politically neutral administrative or technical reforms often may not achieve the political support necessary to translate them into legislation.

Tax Policy Making Under Thatcher

Few will be surprised by the fact that the British tax system has become substantially more regressive in the nearly ten years since Margaret Thatcher's government came into office.[75] Since 1979 the Conservatives have substantially increased consumption taxes, radically decreased marginal and effective income tax rates (especially for those with very large incomes), substantially neutered death and gift taxes[76] and, surprisingly to many, reformed the corporate tax system so that it actually places a heavier tax burden on some types of corporations and generally produces

[71] See Heclo and Wildavsky (fn. 63) for a more detailed view of the administrative practices and culture of the British administrative class.

[72] Since World War II, for example, there have been 17 chancellors of the exchequer. In Sweden there were only 3 ministers of finance in this same period.

[73] Taverne, "Looking Back," *Fiscal Studies* 4, No. 3 (1983), 5.

[74] Chancellor Hugh Dalton encountered such opposition to his plan to increase marginal tax rates on the wealthy in 1947 that he was forced to write the proposal himself.

[75] A plethora of evidence has been presented by fiscal economists to demonstrate that effective tax burdens in the U.K. have been dramatically altered in the past decade. See the annual post-budget analysis of the government's tax reforms, published by the Institute for Fiscal Studies in their *Fiscal Studies*. The budget analysis articles are generally included in the second issue of each annual volume and are usually written by Andrew Dilnot et al. Unfortunately, however, no studies have summarized the effects of all revenue changes since 1978.

[76] See Cedric Sandford, "Capital Taxes—Past, Present and Future," *Lloyds Bank Review*, October 1983.

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more revenue than the system it replaced.[77] In the tax reform proposed in the 1988 budget, Chancellor Nigel Lawson further radically reduced personal income tax rates for the very wealthy, arguing that this move was made necessary by the reduction of the U.S. tax rate. But, interestingly, whereas the marginal rate cuts for the rich were compensated for in the U.S. case by the elimination of many important tax expenditures favoring the wealthy, in Britain the reduction of tax rates for high-income earners was not complemented by any such reduction. The *Financial Times*, one of Britain's leading conservative newspapers, headlined this version of tax reform in two articles, "Dramatic Gains For the Rich," and "An End To Old Fashioned Egalitarianism."[78]

Thus, the decade of Thatcherism has had important effects on the British tax system. Most would agree that tax policy is more coherent today than it was ten years ago—even if they dislike the direction of change. But it would be incorrect to suggest that the British tax system has become a model of rationality, even if regressive. It is indeed interesting to note that the Conservative government has not been able to reform the system thoroughly even in its own image. The reasons for this are complex, but are consistent with the analysis of how party government affects the actions and perspectives of bureaucratic actors. To undergo major restructuring of a national tax system requires competent technical analysis and long-range planning. The incentive structure facing the British Inland Revenue does not encourage the development of either. One must remember that though we now know that Thatcher won two elections after her initial 1979 victory, no one could reasonably predict this outcome ten or even five years ago. Thus, as discussed above, Inland Revenue civil servants have had every reason to keep their heads low. The many significant tax reforms that have occurred in the past ten years have mostly not been the product of an activist administrative class eager to rationalize its tax system. Instead, these reforms have been pushed by an aggressive political party eager to impose its ideological stamp on the system.

One cannot close this section without mention of the most recent tax reform to be pushed by the Thatcher government—the Poll Tax.[79] This

[77] A complete discussion of this apparently unorthodox Conservative tax reform lies outside the scope of this essay. Two important features are worth noting, however. First, the types of companies whose effective tax rates increased the most were large, capital-intensive, manufacturing concerns—these corporations are also heavily unionized. Second, though retained profits taxes were increased, the taxation of distributed profits has been made less severe.

[78] *Financial Times*, March 16, 1988.

[79] Specifically, the government has proposed to abolish the existing property tax system (known as rates) and replace it by a head tax. No longer will local taxation be based on propertied wealth, but instead will be based on size of the household.

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move was so radical, blatantly class-based, and obviously regressive that it nearly evoked a constitutional crisis, with the House of Lords at first refusing to yield its rubber stamp. The government prevailed, however, and is now working out the details of a modern version of a tax that was abolished even before the working class achieved the right to vote.

It perhaps goes without saying that the Labour Party has promised to repeal this tax (as well as reverse the vast majority of Thatcher government tax policies) if and when it regains power. This analysis suggests not only that they will indeed act on these promises, but also that these changes will pull the British tax system further into a maze of incoherence.

Tax Policy Making and Its Institutional Context

I have tried to show how and why the structure of decision making in these three democratic governments has shaped the specific outcomes in one of the most important and controversial arenas of public policy—taxation. My argument has emphasized the constitutional/electoral foundations of these modern decision-making institutions and demonstrated that these institutions shape how groups come to define their policy preferences and strategic objectives. Political institutions are the context in which groups, politicians, and bureaucrats come to define their policy preferences.

In the United States, since no one can control the process because of the constitutional fragmentation of public authority, groups whose influence would be nonexistent in a party government or corporatist regime can exact highly particularistic benefits from tax legislators. Diffusing political power is not the same thing as eliminating it. Congressman Dave Durenberger, a Republican from Minnesota, put the problem for writers on U.S. tax policy succinctly. Arguing that he very much liked the Reagan tax reform plan, he said, "If I thought we had a real chance at tax reform that would reduce the deficit, reduce payroll taxes and reform the income tax, then I would vote against my regional and special interest groups." But because he felt that the plan would not overcome the obstacles put in its way by vested interest groups he added, "I'll vote my constituency. I see most of my colleagues voting the same way."[80]

The structure of the political process in British party government establishes a quite different environment for policy makers. While they are less vulnerable to the particularistic demands of specific interest groups, they are more responsible for acting out their campaign promises. More-

[80] Quoted in the *San Francisco Examiner*, September 1, 1985, p. A-12.

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over, because they have exclusive decision-making authority, they are not forced into compromising their policy ambitions as U.S. and Swedish policy makers routinely are. American and Swedish policy makers do not compromise because they like to, or because they are culturally predisposed to consensus building; they compromise over public policy because political realities give them no choice. In party government, policy makers have a choice of whether or not to compromise, and they exercise it only when it suits them. Because the opposition is so totally excluded from the information and expertise of the policy-making process, they can often declare themselves in favor of policies that have substantial practical problems. But once elected they are committed. Thus:

> Both Labour and Conservative parties, while in opposition, have succumbed to the temptation to condemn a large proportion of the government's policies and have promised to reverse many of these policies when they themselves took office. *The result has been a fatal lack of continuity.* (Emphasis added.)[81]

Continuity is a key word for understanding tax policy making in corporatist Sweden. The system of proportional representation has virtually assured stable minority or coalition governments. Lacking governing majorities, successive Social Democratic governments have been forced to reach out to non-socialists and forge compromises and build coalitions. Likewise non-socialists have been forced to accept the inevitability of Social Democratic political dominance and have thus adopted comparatively conciliatory positions. Over time, business, labor, and government elites have come to understand each other's needs—the government and the unions want revenue for social spending, business wants a decent rate of return on capital—and have been able to construct tax policies that broadly accommodate all three major interests.

Few policy-making elites in either the United States or Britain would deny that capitalists require a profit incentive to make them invest, or that investment is necessary for jobs and growth. But in the heat of political battle, ideologically charged rhetoric can often steer policy makers in less considerate directions.

Conclusion

The argument that political institutions are important in shaping politics (and by implication policy outcomes) is, of course, not new. Aristotle,

[81] Michael Stewart, *The Jekyll and Hyde Years: Politics and Economic Policy since 1964* (London: J. M. Dent and Sons, 1977), 241.

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James Madison, de Tocqueville and E. E. Schattschneider are but a few of those who have long since argued the importance of institutional structure. This essay has attempted to contribute to this body of literature by demonstrating exactly how institutions help shape policy outcomes in a particularly important arena of political life. I have tried to do more than show that different institutional structures bias polities toward some types of interests and away from others. By arguing that institutions provide the context in which political actors make their political choices and define their policy preferences, this analysis takes a step toward a better understanding of the linkage between macrocomparative politics and public policy on the one hand and our increasing understanding of individual human behavior on the other.

I have not argued here that group interests and political values (or ideas) are irrelevant to public policy making. On the contrary, my analysis is centrally concerned with both. But as I argued in the opening sections of this paper, we cannot simply assume certain interests or policy preferences without examining the context in which people make these choices. Similarly, without understanding the institutional context in which general political values are translated into specific policies no one can hope to predict what these policies may be.

This essay, then, has very broad implications for the analysis of individual decision making as well as for the study of the modern welfare state. First, although my argument might suggest that institutional structures are intervening variables that filter political demands and thereby help shape policy outcomes, I maintain that the analysis can be pushed further. To do this we must link what we have observed in this study to what we know about human rationality. Simon has shown in his discussions of bounded rationality that the boundaries on rational decision making (intellectual ability, time, information, environment, etc.) are not just constraints on optimal decision making. Instead, these boundaries are integral to the very decision-making process itself. We do not have fixed, economically derived preferences that are somehow constrained; instead, what we want is a part of the environment in which we make these decisions.[82] Political institutions, then, are part of our preference structure because they are a critical referent in making political choices. To abstract political choices (in the short run) and general political values (in the longer run) from their institutional context is to ignore an absolutely essential variable in our understanding of the source of these preferences.

[82] See, for example, Herbert A. Simon, "Human Nature and Politics: The Dialogue of Psychology with Political Science," *American Political Science Review* 79 (June 1985), 293-304.

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Review Articles

SETTING CONVENTIONAL FORCE REQUIREMENTS: Roughly Right or Precisely Wrong?

By CHARLES A. KUPCHAN*

Joshua Epstein, *Strategy and Force Planning: The Case of the Persian Gulf*. Washington, DC: The Brookings Institution, 1987, 169 pp.
Steven Miller, ed., *Conventional Forces and American Defense Policy*. Princeton: Princeton University Press, 1986, 341 pp.

Introduction

HOW much is enough? What type and what level of military force should the United States procure to protect its vital interests around the globe? During the past decade, there has been a proliferation of research on military requirements in think tanks and universities. This new wave of scholarship on the conventional balance has increased the accessibility of force-modeling techniques and other skills necessary for enlightened discussion of conventional war—skills that were for many years the exclusive domain of military officers and civilian specialists working in or for the Pentagon. Debate about the rigor and accuracy of quantitative assessment of the East-West balance has emerged as a major intellectual issue among analysts of military policy. This debate is also of much political significance because of its implications for defense budgets, military strategy, and conventional arms control. The prospect of Soviet troop withdrawals from Eastern Europe has illuminated the need to think carefully about how negotiated limits on force levels can enhance the stability of the conventional balance.

Despite the growing number of specialists who are studying conventional war, and the increasing sophistication of the methods they use, setting conventional military requirements remains one of the most contro-

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versial and problematic tasks facing the national security community.[1] What assumptions and methodologies lie behind competing assessments of the conventional balance? What is the best way to think about the problem of setting military requirements? To answer these questions and clarify the terms of the debate, we must take stock of the various modes of analysis that have emerged to study theater-level conventional war.[2]

This essay has two principal goals. First, it sets forth and analyzes in a manner accessible to the nonspecialist the basic quantitative methodologies and modes of argument used to assess conventional force requirements. Informed discussion of the conventional balance is restricted to a very small number of experts, but it need not and should not be. The more transparent the methodologies behind force planning and strategic assessment, the wider the community able to make an enlightened and responsible judgment about conventional requirements.

The second goal of this essay is to evaluate the strengths and weaknesses of these methodologies and, in particular, to determine the extent to which static force comparisons and dynamic modeling of combat constitute an improvement upon less sophisticated approaches and enable us to set military requirements with a new degree of reliability and accuracy. While the new body of literature is composed of a wide variety of books and articles, this essay will focus particularly on the work of John Mearsheimer and Joshua Epstein.[3] Mearsheimer is one of the main proponents

[1] This proliferation of research has in fact led to a growing divergence of opinion on the East-West balance. In very broad terms, official U.S. government assessments tend to be more pessimistic than those produced by outside analysts and scholars, but there is by no means a consensus on the military balance within the academic community.

[2] Several developments have fostered the proliferation of literature on the conventional balance. Because the United States may soon face a period of economic austerity, it has become important to assess carefully in what ways defense spending can be reduced without eroding military capability and jeopardizing national security. There has also been a rapid growth in the number and quality of national security experts within the academic community. William Kaufmann has played a central role in teaching conventional force analysis to students at M.I.T., Harvard, and The Brookings Institution. These scholars are devoting increased attention to conventional forces and strategy because preoccupation with nuclear weapons led to a neglect of conventional issues during the 1950s and 1960s, because a greater reliance on nonnuclear options emerged with flexible response, and because study of conventional war lends itself more easily to historical and comparative methodologies. The 1987 U.S.-Soviet agreement to remove intermediate-range nuclear weapons from Europe and Secretary Gorbachev's announcement of the planned withdrawal of Soviet troops from Eastern Europe has also heightened interest in the conventional balance.

[3] The equations used in the Epstein volume under review are set forth in his *The Calculus of Conventional War: Dynamic Analysis without Lanchester Theory* (Washington, DC: The Brookings Institution, 1985). His other important works include *Measuring Military Power—The Soviet Air Threat to Europe* (Princeton: Princeton University Press, 1984); *The 1988 Defense Budget* (Washington, DC: The Brookings Institution, 1987); "Dynamic Analysis and the Conventional Balance in Europe," *International Security* 12 (Spring 1988), 154-65; "The 3:1 Rule, the Adaptive Dynamic Model, and the Future of Security Studies," *International Security* 13 (Spring 1989), 90-127; and "Soviet Vulnerabilities in Iran and the RDF Deterrent," in

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of using static force comparisons to measure the balance, while Epstein strongly favors dynamic campaign models.[4] My aim, rather than to analyze all existing dynamic models, is to scrutinize in a generic way some of the most accessible ones and to determine the limits of their analytic and predictive capability.[5]

To this end, there are several important reasons for focusing on Epstein's work. First, the models used in his *Strategy and Force Planning* rep-

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the Miller volume under review. Mearsheimer's contributions to the Miller volume include "Why the Soviets Can't Win Quickly in Central Europe," and "Maneuver, Mobile Defense, and the NATO Central Front." A broader treatment of some of the main concepts discussed in these articles is contained in *Conventional Deterrence* (Ithaca, NY: Cornell University Press, 1983). Mearsheimer has also contributed to the debate in "Numbers, Strategy, and the European Balance," *International Security* (Spring 1988), 174-85; "Assessing the Conventional Balance: The 3:1 Rule and Its Critics," *International Security* 13 (Spring 1989), 54-89; Correspondence, *International Security* 13 (Spring 1989), 128-44; and "A Strategic Misstep: The Maritime Strategy and Deterrence in Europe," *International Security* 11 (Fall 1986), 3-57. Other relevant contributions to the Miller volume include Richard Betts, "Conventional Strategy: New Critics, Old Choices"; Samuel Huntington, "Conventional Deterrence and Conventional Retaliation in Europe"; Edward Luttwak, "The Operational Level of War"; Barry Posen, "Measuring the European Conventional Balance"; Barry Posen and Stephen Van Evera, "Defense Policy and the Reagan Administration: Departure from Containment." Other works discussed in this essay include: Stephen Biddle, "The European Conventional Balance," *Survival* 30 (March/April 1988), 99-121; Biddle, "The European Conventional Balance: A Reinterpretation," in W. Thomas Wander, ed., *Nuclear and Conventional Forces in Europe—Implications for Arms Control and Security* (Washington, DC: American Association for the Advancement of Science, 1987); Linton Brooks, "Naval Power and National Security—The Case for the Maritime Strategy," *International Security* 11 (Fall 1986), 58-88; Steven Canby, "The Alliance and Europe: Part IV—Military Doctrine and Technology," Adelphi Paper No. 109 (London: International Institute for Strategic Studies, 1975); Eliot Cohen, "Toward Better Net Assessment: Rethinking the European Conventional Balance," *International Security* 13 (Summer 1988), 50-89; Cohen, Correspondence, *International Security* 13 (Spring 1989), 160-79; Congressional Budget Office, *Assessing the NATO-Warsaw Pact Military Balance* (Washington, DC: G.P.O., 1977); Andrew Hamilton, "Redressing the Conventional Balance: NATO's Reserve Military Manpower," *International Security* 10 (Summer 1985), 111-36; Kim Holmes, "Measuring the Conventional Balance in Europe," *International Security* 12 (Spring 1988), 166-73; William Kaufmann, "Nonnuclear Deterrence" and "The Arithmetic of Force Planning," in John Steinbruner and Leon Sigal, eds., *Alliance Security: NATO and the No-First-Use Question* (Washington, DC: The Brookings Institution, 1983); John Lepingwell, "The Laws of Combat? Lanchester Reexamined," *International Security* 12 (Summer 1987), 89-134; William Mako, *U.S. Ground Forces and the Defense of Central Europe* (Washington, DC: The Brookings Institution, 1983); Barry Posen, "Inadvertent Nuclear War? Escalation and NATO's Northern Flank," *International Security* 7 (Fall 1982), 28-54; Posen, Correspondence, *International Security* 13 (Spring 1989), 144-60; J. A. Stockfisch, "Models, Data, and War: A Critique of the Study of Conventional Forces," R-1526-PR (Santa Monica, CA: Rand Corporation, 1975); U.S. General Accounting Office, *Models, Data, and War: A Critique of the Foundation for Defense Analyses*, PAD-80-21 (Washington, DC: G.A.O., 1980).

[4] In a static model, outcomes are determined by input measures alone and are not time-dependent. In dynamic models, outputs are recycled as inputs in successive iterations, making outcomes change as a function of time.

[5] I do not mean to suggest that all combat models face precisely the same conceptual and methodological obstacles discussed in this essay. I do maintain, however, that the outputs of all combat models contain significant uncertainties because of the conceptual difficulties involved in modeling war and because of shortcomings in the existing data bases.

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resent the state of the art in terms of quantitative assessment and force planning available in the open literature.[6] Dynamic modeling of conventional engagements has been and continues to be dominated by the Lanchester family of equations. Responding to his own and others' telling critiques of the theoretical and empirical foundation of these widely used models, Epstein presents his equations as a much-needed replacement for the discredited Lanchesterian approach.

Second, Epstein's basic model for attrition warfare, unlike many of those used in the Pentagon, is relatively simple to understand and to use.[7] This increases its accessibility and allows us to examine carefully both the theoretical propositions about warfare upon which the model is based (what variables are incorporated) and how the model relates inputs to outputs for a given military engagement (how the variables interact).

Third, Epstein clearly sets forth the fundamental assumptions that drive the modeling enterprise, and he implicitly makes quite ambitious claims about the analytic and predictive power of his models. It is precisely because his methods and goals are at once transparent and ambitious that we are able to assess the analytic limits of his equations.[8] Epstein maintains that improvements in the way analysts compare forces and model combat can lead to the calibration of the process of setting military requirements—that rigorous combat modeling provides the tools necessary to make conservative and relatively precise decisions about force levels and force structures. While Epstein acknowledges that his equations

[6] Epstein's equations are now being used by a government agency to undertake assessments of the balance. See Congressional Budget Office, *U.S. Ground Forces and the Conventional Balance in Europe* (Washington, DC: G.P.O., 1988).

[7] Some of the high-resolution models developed in or for the Pentagon are so complex that few individuals have the technical expertise to use them and few agencies have computers sufficiently powerful to run them. Moreover, such models are of little use to the policy community because of the "inability of OR [operations research] analysts to communicate model methodology (and hence the quality of study-generated information) to decision makers." See James Taylor, *Force-on-Force Attrition Modeling* (Arlington, VA: Operations Research Society of America, 1981), 112.

[8] To examine the analytic limitations of formal combat modeling, it makes sense to focus on models for which bold claims have been set forth. Barry Posen, for example, bases his assessment of the conventional balance in Europe on a combat model (the Attrition-FEBA Expansion model devised by Richard Kugler), but he makes less ambitious claims about its analytic value and its accuracy and reliability. Variables that the analyst must use as inputs for Posen's model are outputs in Epstein's model. In the Attrition-FEBA model, attrition is not affected by movement of the front, and both casualty rates and movement of the front are inputs provided by the analyst. In Posen's own words, "build-up rates, tactical air power, force-to-space ratios, attrition rates, exchange rates, and advance rates—can be set by the user as he or she sees fit" (Posen in Miller, 93; see also 91-92, 115-16). In Epstein's model, attrition rates and velocity of the front are related and are outputs. An examination of Posen's model would indeed be instructive, but not necessarily useful as a means of assessing the limitations of the modeling enterprise.

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do not enable us to predict actual battle outcomes, he uses his models to generate military assessments accurate to plus or minus two divisions.[9] Epstein does admit to the ambiguity and uncertainty inherent in force modeling, but he deals with this problem by consistently assigning values favorable to the adversary to the variables in his equations. This allows him to generate conservative assessments of material needs and to set forth clear policy prescriptions.

The main thrust of this essay is that the modeling enterprise, while it serves a valuable function, has serious limitations. The proliferation of literature on conventional forces has sharpened and made more accessible the tools needed to calculate military requirements in a sophisticated manner. In doing so, it has enabled us to think critically about official assessments of the military balance. Furthermore, basing requirements on rigorous quantitative analysis is preferable to relying on speculation and rhetoric—two elements that all too often dominate the debate.

The force-modeling enterprise has not, however, succeeded in calibrating the process of setting military requirements by generating assessments that are accurate to the division level. Insufficient understanding of essential elements of ground combat, the context sensitivity of key variables, and inaccurate and unreliable data bases mean that both static and dynamic models contain high levels of uncertainty. Data of questionable quality are used to run equations based on weak theoretical foundations. Methodological deficiencies and uncertainty of considerable magnitude preclude the use of these models to make definitive judgments about military needs. The outputs are of value in comparing how alternative force structures and weapon systems *might* affect outcomes; but the pervasive and seemingly irreducible uncertainty that characterizes the assessment process is not sufficiently recognized, and the claims made for the models are far too ambitious. As a result, the enterprise falls prey to the very criticisms that it directs toward less sophisticated approaches to determining requirements: analytical ambiguity and methodological weakness.

In the following section, the question of defining military sufficiency is addressed. The essay goes on to evaluate the analytic power and accuracy

[9] In studying U.S. requirements in the Persian Gulf, for example, Epstein uses the output of his models to show that the current size of the Rapid Deployment Force (up to seven divisions and ten air wings) is too large and that "a force of 5 U.S. divisions plus 6 wings of close air support is adequate to contend with the force that the Soviets could sustain (logistically) in combat. . . ." Similarly, Epstein asserts that, for Western Europe, there is "no reason why NATO . . . should fail to meet its requirements and mount an imposing nonnuclear deterrent to conventional attack, especially if all allies honor their commitments, if a U.S. heavy division equivalent is reallocated from the Gulf to NATO, and if a program of terrain enhancement and obstacle preparation is instituted. . . ." See Epstein, *The 1988 Defense Budget* (fn. 3), 35, 45. See also *Strategy and Force Planning*, 97.

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of the main methodological approaches to computing military requirements. In the conclusion, ways to improve the process of determining conventional requirements are outlined, and the implications of irreducible uncertainty for net assessment are discussed. The essay suggests that such uncertainty, by enhancing deterrence, may not only be unavoidable, but also preferable.

Designing Theater Strategy

There are two prerequisites to carrying out theater-level net assessment. First, we need to define explicit military objectives which, if attainable, will secure identified political/strategic goals. This involves setting forth clear, concrete, and measurable yardsticks of military sufficiency. These yardsticks do not in themselves indicate force levels; rather, they specify what function or task should be used to set requirements. Second, we need to translate these yardsticks of sufficiency into quantifiable measures of manpower and firepower, and to designate how these assets should be used. This involves computing force requirements.

Defining Sufficiency

Efforts to define standards of military sufficiency fall into three broad categories: establishing yardsticks of sufficiency, evaluating doctrinal options, and evaluating theater options.

1. YARDSTICKS OF SUFFICIENCY

Before force requirements can be computed, military planners must establish some measurable notion of sufficiency against which force levels can be determined. The British Admiralty prior to World War I, for example, was guided in setting naval force levels by the aim of controlling all main sea lines of communication. This led to the two-power standard: the size of the British battle fleet was to be equal to or greater than the combined fleets of the next two most powerful countries. During the interwar period, this standard was revised to meet the growing power of Japan and Germany: the British home battle fleet was to be clearly superior to the German fleet, while the Far East fleet was to be "fully adequate to act on the defensive and to serve as a strong deterrent against any threat."[10] Similar measures have guided the size of U.S. forces during the postwar era. Under the Kennedy administration, the commitment to maintain forces sufficient to fight simultaneously a major war in Europe

[10] Public Records Office (P.R.O.), London, CAB 16/112, D.P.R. 9, February 6, 1936, "Defence Requirements," 2.

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and Asia, and a smaller war elsewhere, led to the two-and-a-half war standard. The Nixon administration redefined sufficiency in terms of a one-and-a-half war standard: a major war in either Europe or Asia, and a small war elsewhere.[11]

Unfortunately, more specific yardsticks have been lacking in U.S. and NATO planning. In Europe, for example, sufficiency is generally accepted to be that level of capability which deters a Soviet attack. How can that level be defined in more concrete and measurable terms? John Mearsheimer has addressed this question by using historical case studies to determine under what conditions defenders have been able to deter potential aggressors from attacking. Mearsheimer concludes that, as long as the aggressor state does not have a limited aims strategy, conventional capabilities sufficient to deny the attacker the option of blitzkrieg are crucial to effective conventional deterrence.[12] The prospect of a long and costly war of attrition, he argues, appears sufficient to dissuade states from attacking.

Although Mearsheimer's conclusions by no means provide assurance that the Soviets will not invade Western Europe or attempt to seize a limited portion of West Germany if NATO can prevent a blitzkrieg, his work does provide a yardstick of sufficiency that is essential to setting military requirements. In Europe, force levels sufficient to convince the Soviets that they cannot attain a quick and easy victory must be acquired. The specification and articulation of clear military goals of this type is essential both to bounding and to sharpening the process of determining what force levels and what force structures must be acquired to achieve specific missions. Against what standards should the size of the U.S. Navy be set? Should NATO's standing forces in the central region be able to block, hamper, or simply harrass a Soviet surprise attack? What is the measure of sufficiency that should guide the number of tactical aircraft committed to the southern flank? More analytic and historical attention needs to be devoted to this type of question.

2. DOCTRINAL OPTIONS

A second enterprise contributing to the formulation of theater-level strategy concerns the evaluation of different types of doctrinal options and their implications for achieving established yardsticks of sufficiency.[13] The key question here concerns the identification of certain

[11] See John Lewis Gaddis, *Strategies of Containment* (New York: Oxford University Press, 1982), 297.

[12] Mearsheimer, *Conventional Deterrence* (fn. 3).

[13] The terms strategy and doctrine have been used rather haphazardly and have come to

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principles and rules that will most efficiently and with least risk lead to the attainment of identified military objectives. The object is to generate broad propositions about the relationship between doctrine and military outcomes—propositions that are not confined in their applicability to a specific engagement or a single geographic region. Much of the work in this area has focused on the relative merits and dangers of offensive versus defensive conventional strategies, of forward defense versus defense in depth, and of maneuver warfare versus attrition warfare.[14] Such efforts to analyze the implications of doctrine for the attainment of military objectives establish the operational assumptions necessary for more specific determination of military requirements.

3. THEATER OPTIONS

By integrating analysis of yardsticks of sufficiency with the lessons derived from work on doctrinal options, progress has also been made in evaluating options for theater-specific strategy. The central question is this: Given the geographic features of a specific theater of operations, what strategy is most appropriate for the attainment of an identified measure of sufficiency? Examples of this type of analysis include John Mearsheimer's article on naval strategy in northern European waters[15] and Joshua Epstein's work on conventional strategy in the Persian Gulf (pp. 11-63; also Epstein in Miller, 309-41). Mearsheimer attacks the Navy's war plans for offensive operations against Soviet naval forces in the Norwegian and Barents Seas. He bases his critique on two key suppositions. First, he establishes protection of the Atlantic sea lanes of communication (SLOCs) as the U.S. Navy's principal objective. This allows him to specify the containment or destruction of the Soviet fleet of attack submarines as

take on many different meanings. I distinguish between these two terms in the following manner: strategy refers to the way in which military means are used to achieve military ends; doctrine refers to a set of suppositions, principles, or rules about how to apply means to ends. Doctrine therefore informs the formulation of strategy.

[14] On the offense/defense issue, for example, Samuel Huntington argues that NATO should adopt an offensive strategy of retaliation to respond to Soviet aggression in Central Europe. According to Huntington, adoption of an offensive retaliatory option would "restore some element of flexibility to a strategy that is rapidly becoming inflexible . . . [and] pose new uncertainties for the Soviet Union" (Huntington in Miller, 273). Both Stephen Van Evera and Jack Snyder, on the other hand, warn against the dangers inherent in offensive conventional strategies. They argue that offensive doctrines increase the likelihood of war by encouraging states to attack in order to reap the benefits of preemption. See Van Evera, "The Cult of the Offensive and the Origins of the First World War," *International Security* 9 (Summer 1983), 58-107; and Jack Snyder, *The Ideology of the Offensive* (Ithaca, NY: Cornell University Press, 1984). On forward defense versus defense in depth, and maneuver warfare versus attrition warfare, see Betts in Miller, Luttwak in Miller, and John Mearsheimer, "Maneuver, Mobile Defense, and the NATO Central Front" in Miller.

[15] Mearsheimer, "A Strategic Misstep" (fn. 3).

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the yardstick of sufficiency for theater operations. Second, drawing largely on existing work on offense/defense options at sea, Mearsheimer concludes that a defensive strategy of denial centered at the Greenland-Iceland-Norway gap is both less likely to lead to escalation and more efficient in terms of protecting SLOCs than one that relies on offensive operations in the Norwegian and Barents Seas.[16]

Epstein undertakes a similar analysis of conventional options in Iran. He identifies maintaining control over the oilfields in Khuzistan as the key military objective of the United States, and specifies denying the Soviets entry into Khuzistan as the yardstick of sufficiency. Because of the time required to transport U.S. troops to the Gulf, Epstein advocates a policy of abandoning forward defense and of trading space for time—that is, he recommends that central and northern Iran be conceded to the Soviets in order to allow U.S. forces to amass a considerable line of defense in the south (Epstein in Miller, 311-32).

Though Mearsheimer and Epstein produce quite detailed analyses of operations at the theater level, they are still concerned primarily with setting forth yardsticks of sufficiency and evaluating doctrinal and theater options. Such studies provide the analytic link between broad foreign policy goals and the actual procurement and deployment of military force.

Computing Requirements

The task of translating conceptual measures of military sufficiency into quantifiable measures of manpower and firepower is the most problematic component of designing theater strategy. The essence of the problem is that it is virtually meaningless to assess relative military capabilities on the basis of simple numerical comparisons. Strategic analysis at the operational level depends upon assessing the interaction of opposing forces consisting of disparate capabilities, weapons systems, and doctrinal orientations. In view of the wide range of variables (weather, terrain, morale, training, etc.) that determine the outcome of battles, it has proved very difficult to construct models that capture the nature of battle or that predict outcomes with any degree of accuracy or reliability.

Analysts and scholars have devoted much attention to overcoming these obstacles and to developing means of capturing or at least approximating the dynamic interaction of manpower, weapons, and geography that characterizes war. Three central analytic constructs have driven forward the effort to quantify combat and to model it accurately. These constructs have served as the foundation upon which the new wave of con-

[16] On the risks of escalation, see Posen, "Inadvertent Nuclear War" (fn. 3).

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ventional force analysis is based: weapons indexing and the armored division equivalent (ADE), the static comparison of force ratios, and dynamic campaign analysis.[17] We will now assess the methodological rigor of these three constructs and evaluate the extent to which they allow us to translate, accurately and reliably, measures of sufficiency into quantitative measures of force strength and firepower. The analysis shows that ADEs, static force ratios, and dynamic combat models have indeed led to more accurate and reliable assessment of military requirements, but that they fall short of providing the analytic capability to calibrate the process of determining how many and what type of forces to procure. More specifically, the uncertainty present in these constructs precludes the possibility that static force comparisons and dynamic modeling can be used with confidence to calibrate requirements and to make the detailed and relatively narrow policy choices facing Pentagon planners and congressional budget authorities.

I. THE ARMORED DIVISION EQUIVALENT

During the 1950s, Western assessments of NATO's massive conventional inferiority were based upon the erroneous belief that NATO and Warsaw Pact divisions were essentially of the same size and firepower. Planners assumed that the force imbalance was so great—about 25 divisions versus 175—that it made little sense even to try to build toward credible conventional defense.[18] To circumvent this lack of comparability between NATO and Warsaw Pact divisions (and among NATO divisions themselves), U.S. Army analysts in the early 1970s developed the notion of the armored division equivalent—an overall measure of capability based upon firepower, mobility, and survivability.

In order to calculate ADEs, each weapon within the NATO and Warsaw Pact arsenals is placed within one of the following categories: main battle tanks, armored reconnaissance vehicles, attack helicopters, air defense systems, infantry fighting vehicles, other anti-armor systems, artillery,

[17] As discussed below, the ADE is only one type of firepower measure. Most are similar in methodology, and subject to the same types of criticism. I focus specifically on the ADE because it is the scoring system most widely used in the open literature.

[18] Until the mid-1960s, the United States overestimated Soviet ground-troop strength by erroneously assuming that Warsaw Pact divisions were equivalent in strength to NATO divisions. Intelligence analysts began to reassess this assumption when they realized that the Warsaw Pact had neither the funds nor the manpower necessary to support their reported 175 divisions. For a detailed and fascinating description of this realization, see K. Wayne Smith and Alain Enthoven, *How Much Is Enough? Shaping the Defense Program, 1961-1969* (New York: Harper & Row, 1971), 132-42. Smith and Enthoven confirm that this erroneous assessment produced resignation in Washington: "Even the simple, inexpensive step of making adequate plans and logistic provision for existing forces was largely ignored because of the presumed hopeless inadequacy of the forces" (p. 158).

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mortars, armored personnel carriers, and small arms.[19] By circulating anonymous questionnaires among experienced officers, the primary engineering and performance characteristics for each category are identified and weighted. The weights reflect each characteristic's contribution to the effectiveness of weapons in the particular category. Such questionnaires are also used to evaluate the performance of each weapon within a given category. A Weighted Effectiveness Index (WEI) for each weapon is then computed by multiplying each performance index or value by its weighting coefficient and summing the products. The generic equation used to compute the WEI for a weapon is

$$WEI = C_f F + C_m M + C_s S$$

where

F = firepower index for the weapon
M = mobility index for the weapon
S = survivability index for the weapon
C = weighting coefficients for the category.

A representative weapon is selected in each category and assigned a normalized WEI of 1.00. Other WEI values are normalized against this weapon. WEI values thus establish a relative index of weapons within each of the ten categories. By again drawing on the judgment of experienced soldiers, each category is then assigned a weight relative to small arms.[20] The category score in a given unit is derived by summing the product of the number of each weapon in that category and its WEI value, and multiplying that sum by the category weight. The Weighted Unit Value (WUV) score for that unit is the sum of the category scores; this represents the weighted contributions of all weapon categories to the overall combat worth of the unit. By definition, the WUV of a U.S. armored division

[19] The methodology was originally presented in "Weighted Effectiveness Indices/Weighted Unit Values (WEI/WUV)," Study Report CAA-SR-73-18 (Bethesda, MD: War Gaming Directorate, U.S. Army Concepts Analysis Agency, April 1974) [hereafter referred to as WEI/WUV]. The methodology and the scores it produces have been updated twice: WEI/WUV II and WEI/WUV III. The material presented in this essay relies upon "Weighted Effectiveness Indices/Weighted Unit Values III," Study Report CAA-SR-79-12 (Bethesda, MD: War Gaming Directorate, U.S. Army Concepts Analysis Agency, 1979). The new versions of WEI/WUV were intended to update the scores assigned to individual weapons and to weapon categories. A new category—Infantry Fighting Vehicle—was also added. The revised scoring increased the importance of survivability and mobility and decreased the importance of firepower. See WEI/WUV III, 1-6. The U.S. Defense Department has recently developed a new scoring system: the division equivalent firepower (DEF) methodology. The DEF methodology is classified, but does not appear to differ substantially from the WEI/WUV scoring system. See Posen, "Is NATO Decisively Outnumbered?" (fn. 3), 190, n. 12.

[20] Category weights vary depending on the projected theater of engagement and on whether the unit is in an offensive or defensive posture. Scores have been calculated for Central Europe, Northeast Asia, and the Persian Gulf/Middle East. Examples are presented in Appendix A.

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(48,586) constitutes one ADE. The WUV of a Soviet armored division is 31,856, or .66 ADE. By aggregating weighted effectiveness indexes for each weapon in a division—as opposed to simply counting numbers of men and weapons—the ADE is meant to provide a meaningful unit of comparison.[21] (An example of the WEI/WUV methodology is presented in Appendix A.)

How reliable and meaningful are these units of comparison? Does the above methodology suggest that ADEs can be used with confidence to assess the military balance and to set requirements? For several reasons, we should treat weapons indexing and ADEs with a certain amount of skepticism. First, the indexing of weapons is a highly subjective enterprise; it is dependent upon the judgment of U.S. military personnel and has little foundation in empirical study or operational testing. As the 1974 WEI/WUV study report openly acknowledges, the "WEI scores reflect the 'average' situation, which essentially had to be judgmentally estimated."[22] Second, even if the indexing method for specific weapons were more objective, it would still be biased in its overall ranking of unit strength. It favors firepower over mobility, and is therefore more applicable in attrition, as opposed to maneuver, warfare.[23] Moreover, the WEI/WUV methodology gives no credit for support services and command-and-control. This is of considerable importance because the United States allocates roughly 1.5 times as many personnel as the Warsaw Pact to the command-and-logistics role (Posen in Miller, 100).[24] Third, weapons indexing ignores the effect of aggregation on unit strength. Fifty tanks operating in unison produce a higher marginal utility per tank than two tanks operating in unison. Nevertheless, conventional indexing methods assign the same weighted value to each tank.[25] Fourth, aggregated measures of firepower ignore questions of strategy and tactics. Although an infantry division has a far lower WUV score than an armored division, it may be a far more effective and valuable fighting unit in certain types of engagements. Finally, and most importantly, the WEI/WUV methodology was developed as a means of producing *static* force comparisons. The 1979 report warns that "there is no verifiable relationship between the *static* WEI values and WUV scores developed in this study and the *dynamic* interaction

[21] For further discussion of this method of comparison and examples of scoring for different units, see Congressional Budget Office (fn. 3), 53-61; Mako (fn. 3), 105-25. These WUV-ADE equivalents refer to 1974 scores.

[22] WEI/WUV (fn. 19, 1974), 13.

[23] Revised versions of WEI/WUV scores have been updated to compensate for this bias in favor of firepower.

[24] Because of this bias in the scoring methodology, Posen applies a multiplier of 1.5 to NATO WUV scores (Posen in Miller, 101).

[25] See U.S. General Accounting Office (fn. 3), 54-55, and Stockfisch (fn. 3), 6-10, 84ff.

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of these weapon systems and tactical units in an actual combat environment."[26] Put differently, the WEI/WUV-ADE methodology was not developed for use in dynamic models of combat. As we will see, however, WUV scores are often used as the key input for force levels in dynamic campaign models.

The ambiguity surrounding weapons indexing becomes evident when we examine assessments of the central front balance produced by different scoring methods. There are three main types of division equivalent used in the open literature: armored, standard, and heavy.[27] Depending upon which method is used as the basis of comparison, the ratio of Warsaw Pact to NATO forces, assuming zero to three days of NATO mobilization, varies from .93:1 to 1.2:1.[28] This represents a variance of roughly 23 percent, which is quite considerable when the relatively marginal changes in force structure that are politically and economically feasible are taken into account. Thus, even if we were confident of the methodological rigor of the indexing system and assumed that it produced reliable units of comparison, we would be left with significant residual uncertainty about the balance of forces on the central front and, consequently, about the adequacy of current force levels.

I am not suggesting that the ADE and other units of comparison produced by weapons indexing are of little analytic value; without question, they provide a far more accurate assessment of relative military capabilities than is attained by simply counting the number of men and weapons on each side. Even though force ratios calculated using ADEs still contain significant uncertainty, a ratio lying between .93:1 and 1.2:1 does reveal that rough parity exists on the central front at zero to three days of mobilization. The problem, however, is that the WEI/WUV methodology provides the data base upon which more sophisticated analyses of force requirements rely. As the next two sections demonstrate, the uncertainty that surrounds weapons indexing becomes magnified as we move to more complex methods of force analysis.

[26] WEI/WUV (fn. 19, 1979), 23; emphasis added.

[27] Each of these three measures takes a different unit as the baseline for comparison and uses a different computational method. An ADE is roughly equivalent to an average U.S. armored division; a standard division equivalent (SDE) to an average Soviet division stationed in East Germany; and a heavy division equivalent (HDE) to an average U.S. heavy division. These three types of division equivalent and the force balances they produce are presented in Andrew Hamilton (fn. 3), 115-20, 134-36. Hamilton uses HDEs in his own analysis. HDEs give more weight to the infantry than to the armored component of divisions. William Kaufmann uses firepower units (FPUs) in his scoring system. He assesses the FPU of each unit in NATO and the Warsaw Pact and aggregates these scores to derive overall firepower potential. (The SDE is Hamilton's terminology.) See Kaufmann, "Nonnuclear Deterrence" and "The Arithmetic of Force Planning" (fn. 3). William Mako uses ADEs in *U.S. Ground Forces* (fn. 3).

[28] Hamilton (fn. 3), 115.

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2. STATIC FORCE RATIOS

If we assume that ADEs are a meaningful unit of comparison, we must still determine how many ADEs are necessary to attain identified military goals. One way to translate abstract yardsticks of sufficiency into quantifiable force levels is to identify the attacker-to-defender ratio that will allow each side to fulfill its theater-level strategic objectives.

In one of his early articles on the conventional balance in Europe, John Mearsheimer concludes that "NATO is in relatively good shape at the conventional level. The conventional wisdom which claims otherwise on this matter is a distortion of reality" (Mearsheimer in Miller, 154). Upon what evidence and analysis does Mearsheimer base this argument? Despite his assertion that his conclusions do not "depend on precise calculations about the balance of forces," the crux of his argument turns on several key assumptions about the relationship between military outcomes and attacker-to-defender force ratios (Mearsheimer in Miller, 128, n. 20). More specifically, he assumes that, if the Soviets are to breach NATO's defense line along the central front, they require, at a minimum, an attacker-to-defender ratio of 3:1 on the main axes of advance and a front-wide ratio above 2:1 (Mearsheimer in Miller, 133, 137, and 147, n. 61). Unless the Soviets can achieve such superiority, NATO should be able to block a Soviet blitzkrieg (Mearsheimer in Miller, 148, 154). Mearsheimer has affirmed this position in a more recent article: "The defender would probably be in serious trouble if the overall balance of ADEs in a theater of the size and geography of Central Europe favored the attacker by 2:1. . . . The key consideration in determining who wins breakthrough battles is whether or not the attacker can achieve a local force advantage of 3:1 or more."[29]

It is essential to recognize that Mearsheimer is making a claim about the operational significance of the 3:1 rule in actual combat, and not about the use of the rule to determine the force levels necessary for effective deterrence. The latter claim rests on determining what the Soviets take to be the force ratio necessary to ensure success; if they could not achieve this ratio, they would be very unlikely to attack. There is, in fact, good reason to use the 3:1 rule to set the requirements for effective conventional deterrence. Soviet literature suggests that Soviet force planners do indeed

[29] Mearsheimer, "Numbers, Strategy, and the European Balance" (fn. 3), 176-77, n. 5. Other assessments of the balance also point to the operational importance of the 3:1 and 2:1 offense-defense ratios. Andrew Hamilton, for example, writes that "the Pact-NATO ratio exceeds 2:1 after about two weeks of mobilization. In that situation, most analysts would agree that NATO needs to add forces if it wishes to have a better than even probability of preventing a large-scale conventional attack from achieving a breakthrough in the Central Region" (fn. 3), 121. Hamilton also uses the 3:1 rule as a measure of tactical effectiveness when he computes force attrition over time (*ibid.*, 124). Barry Posen uses the 3:1 figure as a guide to judge the plausibility of his assumptions (Posen in Miller, 88, 110).

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stipulate marked superiority—by a ratio of *at least* 3:1—as a prerequisite for attack.[30] NATO forces, if maintained at a level sufficient to deny such superiority, should therefore serve as an effective deterrent.[31]

It is far more difficult to evaluate the utility of the 3:1 rule as a measure of adequacy after the battle has begun. The rule is based on the assumption that defenders fighting from prepared positions almost always enjoy a tactical advantage over the attackers and can thus attain a favorable exchange ratio. The attacker must therefore amass a numerical superiority that allows him to overcome his tactical disadvantage. The crux of the debate thus focuses on identifying the threshold ratio at which the attacker's numerical superiority offsets the defender's tactical advantage. We can determine this threshold only by careful empirical analysis of past battles. Unfortunately, a reliable data base does not yet exist. Several attempts have been made to compile the information, but the results of these efforts have been riddled with analytic inconsistencies, causing military experts to treat them with skepticism.[32] The most ambitious of these efforts—the 598-battle *CHASE Report*—admits that the project is in a "tentative and unfinished state" and that the data base contains "typographical mistakes, omissions, ambiguities and ill-defined data categories."[33] When outside reviewers examined the report, they too discovered serious errors in the data base and found it impossible to replicate

[30] See General William E. DePuy, "Technology and Tactics in Defense of Europe," *Army* 29 (April 1979), 15; Mearsheimer in Miller, 133, n. 30; and Mearsheimer, "Assessing the Conventional Balance" (fn. 3), 61, ns. 18 and 19.

[31] This assumes that the Soviets would not attack if they calculated that they had poor chances of success. It is possible, however, that a Soviet attack would be the result, not of premeditated aggressive intent, but of fear or desperation triggered by political chaos in Eastern Europe and NATO mobilization. As Richard Betts argues, "the probability of armed conflict depends not only on the actual dangers of war to the attacker, but also on the perceived dangers of peace." See Betts, *Surprise Attack: Lessons for Defense Planning* (Washington, DC: The Brookings Institution, 1982), 128, 141-44. This scenario does not suggest, however, that larger NATO forces are needed to ensure deterrence; in fact, a less favorable balance for the Soviets might only increase their feelings of desperation and raise their incentives for attack. Under these circumstances, political reassurance—in the form of defensive force postures and diplomatic gestures—would be the most effective tool to enhance deterrence. See also Richard K. Betts, "Conventional Deterrence: Predictive Uncertainty and Policy Confidence," *World Politics* 37 (January 1985), 153-79.

[32] The most widely used studies of past battles available in the open literature include Trevor N. Dupuy, *Numbers, Predictions and War: Using History to Evaluate Combat Factors and Predict the Outcome of Battles* (Indianapolis: Bobbs-Merrill, 1979); Dupuy, *Understanding War: History and Theory in Combat* (New York: Paragon House, 1987); and *Combat History Analysis Study Effort (CHASE): Progress Report for the Period August 1984–June 1985 [CHASE Report]*, CAA-TP-88-2 or AD-A179 734 (Bethesda, MD: Requirements and Resources Directorate, U.S. Army Concepts Analysis Agency, August 1986). The *CHASE Report* is based on data prepared by the Historical Evaluation and Research Organization (HERO).

[33] *Ibid.*, iii, v. For further discussion of the reliability of the data base, see Epstein, "The 3:1 Rule" (fn. 3), 104-5. The data base actually draws on 601 battles, but only 598 were used in the analysis of force ratios.

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some of the data.[34] Furthermore, the utility of these aggregated studies in evaluating the 3:1 rule is limited by the fact that the rule only applies, according to Mearsheimer, when the following conditions exist: the defender has prepared positions; the engagement constitutes a breakthrough battle; the quality of opposing forces is roughly equivalent; and the attacker is unable to achieve surprise. Because the *CHASE Report* data base does not isolate engagements in which the 3:1 rule applies, presents force levels in personnel rather than firepower ratios, and is historically unreliable, it cannot be used to assess empirically the utility of static force comparisons.[35] Similar factual and analytic ambiguities call into question efforts to disconfirm the 3:1 rule by presenting breakthrough battles in which the defender supposedly enjoyed a force ratio of better than 1:3, but nevertheless failed to block the attack.[36]

The problem is that if the quality of the existing data bases does not permit empirical *refutation* of the 3:1 rule, it also does not permit empirical *verification*. Mearsheimer admits that "no reliable comprehensive data base on breakthrough battles has been compiled . . ." and that the 3:1 rule "is not derived from a cross-sectional sample of relevant cases."[37] We must therefore evaluate its merits on other grounds. The case for the rule rests exclusively on its impressive historical credentials and the fact that it is, in Mearsheimer's words, "usually assumed" and "widely accepted" within the planning community (Mearsheimer in Miller, 133 and 137, n.

[34] Mearsheimer, "Assessing the Conventional Balance" (fn. 3), 66.

[35] *Ibid.*, 62-64, 66-67.

[36] In "Dynamic Analysis and the Conventional Balance in Europe" (fn. 3), Joshua Epstein presents nine breakthrough battles in which, he argues, the attacker won with less than a 3:1 advantage. Mearsheimer, in "Assessing the Conventional Balance" (fn. 3), maintains that Epstein's analysis is flawed by incorrect data and a failure to take qualitative factors and surprise into consideration. Epstein, in "The 3.1 Rule" (fn. 3), 90-95, 99-106, responds that Mearsheimer's critique is plagued by obscurity about what measures of firepower to use to test the rule and about the conditions under which the rule applies (i.e., what constitutes a breakthrough battle, should reserves be included in initial force ratios, etc.). In his earlier writings on the European balance, Mearsheimer uses ADEs to assess the sufficiency of NATO forces (Mearsheimer in Miller, 126-28, and "Numbers, Strategy and the European Balance," fn. 3, 175-76). In his most recent presentation, he asserts that ADEs are appropriate measures in Europe "because the fighting skills of the troops in NATO and Warsaw Pact armies are roughly equal." In other cases, however, "ADE scores must be adjusted before they can fairly represent the relative combat power of opposing forces having unequal fighting skills . . ." ("Assessing the Conventional Balance," fn. 3, 63). As Epstein correctly notes, Mearsheimer provides no instructions as to how such adjustments are to be made ("The 3:1 Rule," fn. 3, 91-92). Despite and *because of* these definitional problems, Mearsheimer does succeed in showing that the cases selected by Epstein do not constitute a clear refutation of the 3:1 rule. But Mearsheimer's argument also raises problematic questions about the relative importance of force ratios in determining outcomes and about how to set up rigorous empirical tests of the rule (see n. 47 below).

[37] Mearsheimer, "Assessing the Conventional Balance" (fn. 3), 57, 56. For further discussion of the problems involved in empirically verifying the 3:1 rule, see Epstein, "The 3:1 Rule" (fn. 3), 95-98.

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33). Beginning before World War I, planners in Britain and Germany used the rule as a guide in setting force levels.[38] More recently, both Soviet and American planning documents have contained references to the rule.[39] Furthermore, no reliable study has been done to disconfirm it. Does its historical popularity warrant confidence in the use of the 3:1 rule as a guide for operational planning? Should we accept it a priori—unless we have sound empirical evidence to the contrary?

The case against accepting the 3:1 rule without empirical verification rests on two main points. First, there is by no means unanimous support for the rule. The U.S. Army Materiel Systems Analysis Agency, for example, specifies 2.6:1 as the threshold ratio for breakthrough battles.[40] It is also important to note that, unlike the 1976 version of the U.S. Army field manual *FM 100-5*, the 1982 and 1986 versions contain no discussion of the 3:1 rule.[41] Some analysts also maintain that the defense may be able to hold even when outnumbered at the point of attack by 5:1 or 6:1. Soviet literature suggests that "decisive superiority" is attained when ratios reach a range of 5 to 7:1.[42] The 3:1 rule may therefore induce NATO to procure unnecessary forces and could be a prescription for considerable overspending. There is also a divergence of opinion on whether 2:1 is a satisfactory *theater-wide* threshold. Harold Brown, while Secretary of Defense, maintained that a front-wide 2:1 ratio in favor of Warsaw Pact forces could well enable them to achieve local breakthroughs. Secretary Schlesinger maintained that breakthroughs would still occur at 1.5:1, while a Congressional Budget Office Study identified 1.2:1 as the front-wide ratio ensuring forward defense.[43] Kim Holmes is equally skeptical of 1.5:1 as an appropriate threshold ratio: "As a general rule, in a theater-wide campaign a 1.5:1 advantage is more than enough to guarantee 5-6:1 advantages in combat power on 3 or 4 decisive strike axes. . . . Both the U.S. and the U.S.S.R. consider a 5-6:1 combat power advantage along a strike axis as practically guaranteeing the success of an offensive. . . ."[44]

[38] An example of the use of the rule in pre-World War II planning can be found in P.R.O., CAB 38/26/13, April 15, 1914, Standing Sub-Committee of the Committee on Imperial Defence, "Attack on the British Isles from Overseas," 9.

[39] See U.S. Army, *Operations*, *FM 100-5* (Washington, DC: U.S. Department of the Army, 1976), and Posen in Miller, 83-84, n. 4. For Soviet Sources, see fns. 30 and 42.

[40] DePuy (fn. 30), 15.

[41] Posen in Miller, 84, n. 4; Mearsheimer, "Assessing the Conventional Balance" (fn. 3), 60, n. 17.

[42] DePuy (fn. 30), 15; Mearsheimer, "Assessing the Conventional Balance" (fn. 3), 61; A. A. Sidorenko, *The Offensive: A Soviet View* (Moscow: 1970), trans. U.S. Air Force (Washington, DC: G.P.O., 1976), 29; Epstein, "The 3:1 Rule" (fn. 3), 96; Posen in Miller, 84, n. 4; 113.

[43] These examples are cited in Mako (fn. 3), 38. See also Congressional Budget Office (fn. 3), 60.

[44] Holmes (fn. 3), 166.

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These differing opinions about desirable force ratios at the theater level produce a considerable gap between high and low estimates of requirements.[45]

Second, past battles indicate that the correlation between force levels and outcomes may be much weaker than the proponents of static force comparisons maintain. Mearsheimer defends the 3:1 rule against accounts of historical breakthrough battles in which the attacker supposedly succeeded with less than a 3:1 numerical advantage by pointing to the importance of qualitative superiority and tactics as well as to errors in the data.[46] While he successfully discredits these challenges to the rule, his argument also suggests that ambiguities remain about how to test the rule, and that force ratios may not be crucial indicators of relative superiority: troop quality and tactics may be decisive determinants of battle outcomes.[47] Although battle data for theater-wide engagements may be unreliable, in the aggregate they lend support to this assertion. In the 598-battle data base used in the *CHASE Report*, attackers won 63.3 percent of the 196 battles in which they enjoyed an advantage of between 3:1 and 1.5:1.[48] Of the 246 battles in which the force ratio was between 1.5:1 and 1:1.5, the attacker still won 57.7 percent of the engagements. The attacker

[45] The simple calculation below bears out this point. According to Hamilton (fn. 3, 115), the Warsaw Pact would have roughly 81 ADEs in central Europe after 100 days of mobilization while NATO would have about 46. Depending on desired force ratios, NATO requirements would be as follows:

Ratio	2:1	1.5:1	1.4:1
ADEs required	40	53.3	57.1

The magnitude of these margins appears even greater when we consider that the scope of the debate in the United States is limited to the possibility of adding or subtracting a very small number of ADEs, say one or two.

[46] Mearsheimer, "Assessing the Conventional Balance" (fn. 3), 66-68, Table 1. Dupuy also maintains that the 3:1 rule sometimes fails when force ratios are expressed in terms of firepower because the analysis neglects "the respective quality of the opposing forces." See Dupuy (fn. 32, 1987), 36.

[47] Mearsheimer shows that, when adjusted to reflect quality of troops and combat circumstances and environment (Dupuy's Combat Power Formula), the force ratios in the nine successful breakthrough battles presented by Epstein were greater than 3:1 in seven cases and close to 3:1 in the other two. See "Assessing the Conventional Balance" (fn. 3), 68; and Dupuy (fn. 32, 1987), 81-89, 156. Dupuy's Combat Power Formula, however, is not the same as the ADE or other firepower scores that are usually used in static comparisons; the latter do not take quality, tactics, and environment into consideration. The use of Combat Power ratios instead of ADE ratios therefore changes the methodology substantially and grants that firepower indexes alone are insufficient to serve as units of comparison in static models. If the 3:1 rule is to be subjected to rigorous empirical testing, this existing confusion over what constitutes an appropriate measure of combat power must be remedied. See also Epstein, "The 3:1 Rule" (fn. 3), 103-4.

[48] *CHASE Report* (fn. 32), 3-20. This does not in itself disconfirm the 3:1 rule because of the analytic inconsistencies in the data base that are discussed above: not all the engagements are breakthrough battles; the defender does not always have prepared positions; force ratios have not been adjusted to reflect quality; etc.

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was also the victor in 46.7 percent of the 45 battles in which the force ratio was between 1:1.5 and 1:3. Significant changes in force levels thus do not appear to have a strong impact on outcomes. As the *CHASE Report* concludes, "force ratio is an unsatisfactory and inadequate predictor of victory in battle."[49]

The work of Merritt and Sprey confirms that, "historically, battle outcomes are relatively insensitive to the prevailing force ratios.... The available historical evidence indicates that, short of huge force disparities, the dominant aspects of combat capability are training and tactics."[50] Richard Betts also argues that "historically there appear to be few cases in which the initial outcomes in war were nearly as favorable for the defense as *a priori* calculations of the balance of forces should have implied."[51] He adds that the attacker's initiative and his ability to choose the time and place of engagement have been crucial determinants of battle outcomes. Similarly, General William DePuy, basing his argument on past engagements as well as battle simulations, asserts that exchange ratios are very sensitive to the distance between opposing forces, and that "the advantages to the defender diminish as the attacking force closes the range."[52] DePuy maintains that an advance of one thousand meters by the attacker may cause a dramatic change in exchange ratios.

Everything else being equal, it is clearly preferable to have numerical superiority. But everything else is rarely equal. The principal problem is that force ratios simply ignore crucial variables such as training, tactics, and morale. These considerations give us reason to be skeptical about accepting the 3:1 or the 2:1 rule simply on the basis of its historical popularity. Furthermore, the weak correlation between force ratios and outcomes suggests that more of the analytic effort should be devoted to the qualitative and tactical dimensions of battle.

The argument is not intended to suggest that static force comparisons are meaningless. On the contrary, the 3:1 rule appears to be a conservative guide for determining the force levels necessary for credible conventional deterrence. As a guide for measuring operational adequacy, however, final judgment on the utility of the 3:1 figure must await the laborious task of careful historical study as well as clarification of the conditions under which the rule applies and of the firepower measures to be used in empirical testing. In the absence of the data needed to verify or disconfirm

[49] *Ibid.*, 1-6.

[50] Jack Merritt and Pierre Sprey, "Negative Marginal Returns in Weapon Acquisitions," in Richard Head and Ervin Rokke, eds., *American Defense Policy*, 3rd ed. (Baltimore: The Johns Hopkins University Press, 1973), 491-92.

[51] Betts, "Conventional Deterrence" (fn. 31), 170.

[52] DePuy (fn. 30), 18-19.

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the rule, and because better alternatives are at present lacking, the 3:1 rule may provide at least a starting point for making very crude assessments of military sufficiency. But until the 3:1 breakthrough threshold, the 2:1 theater-wide threshold, or any other ratio can be shown to be a consistently meaningful measure of adequacy, it is premature to argue that these ratios can be used to make definitive judgments about the military balance.

3. DYNAMIC CAMPAIGN MODELING

The most sophisticated approach to designing theater-level strategy and setting appropriate military requirements involves the use of dynamic models to simulate combat. The goal is to move away from static comparisons toward models that more accurately capture the nature of battle. The skeletal methodology of this approach is as follows:

1. Model a specific engagement of forces by creating equations which incorporate the key variables that determine the outcome of battles.
2. Assign conservative values (that is, favorable to the adversary) to those variables and compute results to produce bounded measures of material adequacy for the engagement.
3. String together the appropriate equations and values for specific engagements to produce the requirements for theater-level warfare.

Dynamic modeling of combat has been dominated by the Lanchester family of equations. Developed by a British engineer in the early 1900s, the Lanchester equations incorporate only the variables of force size, unit effectiveness, and time in calculating the attrition of opposing sides engaged in conventional battle.[53] Two of these equations have been most frequently used in combat analysis: the Lanchester square law, applicable in cases of direct or concentrated fire; and the Lanchester linear law, applicable in cases of indirect fire.[54] In the case of direct fire (assuming perfect target acquisition and damage assessment), it is posited that Red can concentrate its fire on Blue and that Blue's losses can therefore be computed by multiplying Red's force size (R) by its effectiveness (r), where effectiveness is measured by the rate of fire multiplied by the single-shot kill probability.[55] As the following equations express, one side's losses

[53] These equations were originally published in F. W. Lanchester, *Aircraft in Warfare: The Dawn of the Fourth Arm* (London: Constable & Co., 1916).

[54] In direct fire, a unit concentrates its fire on specific and visible targets in its line of sight; it can determine when a target has been incapacitated, and move its fire to another target. In indirect fire, a unit fires at targets for which it does not have an uninterrupted line of sight. For a detailed discussion of Lanchester equations, see James Taylor, *Lanchester Models of Warfare*, 2 vols. (Arlington, VA: Operations Research Society of America, 1983), and Taylor (fn. 7). For a more condensed treatment and criticism, see Lepingwell (fn. 3).

[55] I am drawing on Lepingwell's "The Laws of Combat?" (fn. 3) in this brief description of

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over time are a function only of the opposition's force level and effectiveness:

$$dB/dt = -rR \qquad dR/dt = -bB. \qquad \text{Equation 1}$$

Integrating with respect to force levels and solving for equally matched forces—the condition under which engagement would produce a stalemate—produces the square law:

$$rR^2(0) = bB^2(0). \qquad \text{Equation 2}$$

In the case of indirect fire, Red saturates a given area with fire but does not aim at specific targets. Blue's losses thus depend upon how many of its forces are concentrated within the area under fire, as well as upon Red's effectiveness and force size. Each side's losses over time can be expressed as follows:[56]

$$dB/dt = -Br^*R \qquad dR/dt = -Rb^*B. \qquad \text{Equation 3}$$

Again integrating and solving for the force size and effectiveness that produce a stalemate, we derive the linear law:

$$r^*R(0) = b^*B(0). \qquad \text{Equation 4}$$

The square law computes firepower as a force's effectiveness coefficient multiplied by the square of its size measured in manpower. The linear law computes firepower as effectiveness multiplied by size.

Because these equations have been extensively examined elsewhere, we shall review only the most important critiques of the square law, the Lanchester equation most frequently used in dynamic models. First, the square law has not been empirically verified. In fact, the attrition rates and battle outcomes predicted by the equation appear to be at odds with the data compiled from historical studies of past battles.[57] Second, it is not at all clear which of Lanchester's equations are most applicable to modern

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Lanchester theory. Readers seeking a fuller exposition should consult his article and the volumes by James Taylor cited in the previous note.

[56] r^* and b^* denote that the effectiveness coefficients are not the same for the square law and the linear law. In the square law, the coefficient reflects enemy shooters killed per time per friendly shooter. In the linear law, the coefficient reflects the *fraction* of enemy shooters killed per time per friendly shooter.

[57] See Robert L. Helmbold, "Historical Data and Lanchester's Theory of Combat" (Fort Belvoir, VA: Combat Operations Research Group), Part I: CORG-SP-128 (AD 480 975), 1961; and Part II: CORG-SP-190 (AD 480 109), 1964. See also Helmbold, "Some Observations on the Use of Lanchester's Theory for Prediction," *Operations Research* 12 (September-October 1964), 778-81; Lepingwell (fn. 3), 113-21; and Epstein, *The Calculus of Conventional War* (fn. 3), 8-9. These studies face the same problems of data availability and reliability discussed above.

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combat. Current combined-arms engagements involve a mix of both direct and indirect fire. Furthermore, the equations are often misused by analysts attempting to employ aggregated measures of firepower and effectiveness. Thomas Homer-Dixon and John Lepingwell have shown clearly that this is inconsistent with the mathematical logic of the equations.[58] Homer-Dixon correctly notes that in the square law, the variables representing force levels are "to measure only the number of *autonomous fighting units* on the battlefield, that is, the number of units that both deliver aimed fire and are the targets of such fire."[59] To use wuv scores or other firepower measures in the square law—because they aggregate fighting units and because they incorporate effectiveness weightings into force level values—is to skew the logic of direct-fire calculations. Third, the equations, because they use only effectiveness, force size, and time to calculate attrition, provide no means of accounting for the effect of withdrawal on attrition rates.[60] They therefore overlook a crucial variable affecting the prosecution and outcome of conventional battle. Finally, the square law suffers from its unqualified assumption that, regardless of the size of Red's forces, Blue's loss rate is always a linear function of Red's force size multiplied by its effectiveness; marginally diminishing returns to increases in force level are never considered.[61] This is problematic because, as the battle front becomes congested, force-to-space constraints limit the extent to which increasing force levels enhance firepower. If troops are highly concentrated, they may degrade their own mobility, impair their capability to acquire targets, and become lucrative targets for the opposition's indirect fire.

Epstein's efforts to improve dynamic analysis have focused on circumventing these weaknesses in the square law and on identifying and operationalizing important variables that are missing from the Lanchester equations. To begin, Epstein incorporates the effect of close air support on the ground battle, a variable not explicitly considered in Lanchester's original equations.[62] He also introduces new variables that take into account the effect of withdrawal on attrition rates.[63] He posits that the de-

[58] Homer-Dixon, "A Common Misapplication of the Lanchester Square Law: A Research Note," *International Security* 12 (Summer 1987), 138-39; Lepingwell (fn. 3), 103-11.

[59] Homer-Dixon (fn. 58), 137; emphasis in original.

[60] For Epstein's detailed critique of Lanchester theory, see *Strategy and Force Planning*, 146-55. See also Epstein, *The Calculus of Conventional War* (fn. 3).

[61] *Ibid.*, 7-13.

[62] Because of limitations of space, Epstein's airpower equations will not be treated fully in this essay.

[63] The innovation introduced by Epstein allows the defender to trade space for time. If the defender's losses exceed his threshold attrition rate, he can withdraw from the front until

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fender (B) identifies some threshold attrition rate (A_{bt}), and will withdraw if the actual attrition (A_b) exceeds that rate.[64] Epstein observes that, "historically, the basic rationale for withdrawal has been to reduce one's attrition; if a defender's attrition exceeds a certain threshold, he may withdraw, which action reduces his attrition."[65] Epstein thus assumes that the change in the defender's withdrawal rate on day d ($W(d) - W(d-1)$) depends on the difference between his actual attrition rate on day $d-1$ and his threshold attrition rate ($A_b(d-1) - A_{bt}$):

$$W(d) = W(d-1) + \left[\frac{W_{max} - W(d-1)}{1 - A_{bt}}\right]\left[A_b(d-1) - A_{bt}\right]^{66}. \qquad \text{Equation 5}$$

As $W(d)$ increases, the defender withdraws from the front, disengaging from the attacker and reducing the attacker's daily attrition rate (A_r). Because the defender's attrition is a function of the attacker's (see below), withdrawal also reduces the defender's attrition. The defender's withdrawal rate affects the attacker's attrition rate through the following equation:

$$A_r(d) = A_{rg}(d)\,[1 - W(d)/W_{max}]. \qquad \text{Equation 6}$$

A_{rg} represents the attacker's ground prosecution rate—the pace at which the attacker chooses to engage in battle. As $W(d)$ increases, $W(d)/W_{max}$ also increases, decreasing the attacker's daily attrition rate (A_r). If this attrition rate falls below the attacker's threshold (equilibrium) rate (A_{rt}), the attacker will increase the prosecution rate to pursue the retreating defender. Similarly to the defender's withdrawal rate (W), A_{rg} depends upon the difference between the attacker's actual attrition rate on day $d-1$ and his threshold attrition rate:

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daily attrition decreases to below the threshold rate. For detailed discussion of the model, see Epstein, 69-80, 117-25.

[64] Subscripts (r and b) are used to denote red (attacker) and blue (defender); t denotes threshold rate. $A_b(d)$ and $A_b(d-1)$ represent blue attrition rate on day d and blue attrition rate on day $d-1$, respectively. I have re-labeled Epstein's variables to clarify the presentation.

[65] Epstein, *The Calculus of Conventional War* (fn. 3), 4.

[66] $\left[\frac{W_{max} - W(d-1)}{1 - A_{bt}}\right]\left[A_b(d-1) - A_{bt}\right]$ is a function designed to ensure that the defender's withdrawal rate approaches the maximum (W_{max}) when A_b approaches 1.0 (100% daily attrition). Appendix B provides a more detailed explanation of the feedback mechanism and the variables used in Epstein's equations.

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$$A_{rg}(d) = A_{rg}(d-1) - \left[\frac{A_{rt} - A_{rg}(d-1)}{A_{rt}}\right]\left[A_r(d-1) - A_{rt}\right]^{67}.$$

Equation 7

The final mechanism that we need to consider before examining Epstein's general equations for ground combat is the average casualty-exchange ratio (E). E represents the attacker's force (measured in WUV score) killed per defender's force (measured in WUV score) killed: $1/E$ is therefore the ratio of defender's force lost to attacker's force lost.

We can now present the equation for the attacker's ground force on day d ($R(d)$). $R(d)$ is the attacker's force on the preceding day ($R(d-1)$), minus his attrition on the preceding day (daily attrition rate $A_r(d-1)$ multiplied by force level $R(d-1)$):

$$R(d) = R(d-1) - A_r(d-1)R(d-1). \qquad \text{Equation 8}$$

Similarly, the defender's ground force on day d ($B(d)$) is his force on the preceding day $B(d-1)$ minus his attrition on the previous day ($1/E$ multiplied by the attacker's losses on that day ($A_r(d-1)R(d-1)$):

$$B(d) = B(d-1) - \frac{A_r(d-1)}{E}R(d-1). \qquad \text{Equation 9}$$

Epstein argues that these equations can be used to model combat and to determine military requirements by assessing the adversary's initial force levels, assigning conservative values to the variables that capture exchange ratios, attrition rates, and threshold attrition rates for ground battle, and computing the initial force levels required to attain the wartime objective: attrition of the enemy's capabilities. (See Appendix B for a more detailed explication of the feedback mechanism and the relevant variables.)

With what degree of confidence can we use Epstein's model to set military requirements? Has Epstein succeeded in solving the methodological weaknesses that plague the Lanchester equations? Analysts who employ combat models readily admit that there are innumerable uncertainties. Barry Posen, for example, remarks that "there are simply too many uncertainties for any model to capture, certainly too many for a model to

[67] $\left[\frac{A_{rt} - A_{rg}(d-1)}{A_{rt}}\right]\left[A_r(d-) - A_{rt}\right]$ ensures that the changes in the prosecution rate (A_{rg}) approach zero when the attacker's attrition rate (A_r) reaches his threshold (A_{rt}) and that the prosecution rate adjusts accordingly when attrition diverges from the threshold.

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capture with high confidence" (Posen in Miller, 91). Epstein himself admits that, "like all applications of mathematics to the physical world, . . . [my equations] are an idealization. They do not purport to be realistic in a depictive sense; innumerable factors are intentionally left out of account" (p. 75). He also invites scrutiny of his models and encourages us to think critically about whether his assumptions are in any way unfavorable to the adversary (the Soviets):

> But let the methodological point be clear; as long as they [my assumptions] err on the side of conservatism (i.e. favorability to the Soviets), then even the *wrong* numbers, applied in grossly approximative equations, will still address the *right* question: is the threat plausible? . . . In order to discredit the conclusions . . . one has to show *where* those admittedly unrealistic assumptions have been unfavorable to the Soviets.[68]

These caveats having been set forth, Epstein advances a rather bold claim for his force models:

> For force-planning purposes, however, it is not necessary to attain depictive precision. So long as the equations—simple as they may be—capture the dominant dynamics and do not build in assumptions biased against the adversary, *they can suffice as a conservative gauge of material adequacy* (p. 75; emphasis added).

To assess this claim, we need to ask two questions. First, how confident are we that Epstein's ground model provides a close enough approximation of the actual dynamics of war to serve as a basis for setting requirements? Second, if we are comfortable with his model, are the data used to assign values to the variables sufficiently conservative and sufficiently reliable and empirically verifiable to assume that the model will produce an output accurate enough to serve as a "conservative gauge of material adequacy?"[69] In other words, is the theory good enough and are the data accurate enough to serve as a guide for setting military requirements? The arguments presented below suggest that we have reason to be dubious on both scores.

Models and war. To begin, it is essential to realize that scholarship on the dynamics of war is still in its early stages. We lack knowledge of the fundamental interactions of the battlefield—men interacting with men, men interacting with weapons, and weapons interacting with other weapons—especially as the level of aggregation increases from isolated

[68] Epstein, *Measuring Military Power* (fn. 3), xxix; emphasis in original.

[69] It is important to recall the level of accuracy that Epstein claims for this "gauge." As was mentioned in the introduction, he uses his models to prescribe force levels accurate to one or two divisions.

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low-intensity engagements to broad-front, combined-arms engagements at the theater level.[70] It is therefore not even clear what dynamics and interactions a model of warfare should seek to capture. Nor is it evident how to quantify or measure those variables that it seems sensible to incorporate. The inability of military historians and operations analysts to produce accurate models for *past* wars, and even to draw generalizations about outcomes on a more qualitative basis, confirms the difficulties inherent in theorizing about war.

A closer look at Epstein's model will corroborate this general point. Although his feedback mechanism is an important step forward, there are still variables missing from his equations. A partial list includes: intelligence, initiative, momentum, morale, interdiction disruption, battlefield obscuration, command and control, and weather. All of these variables are extremely difficult, if not impossible, to quantify; even qualitative assessment is complicated by the "fog of war" and the unpredictable nature of events on the battlefield.[71] Epstein deals with this problem by acknowledging the existence of these less tangible variables, but dismisses their importance by arguing that the Soviets would not enjoy a relative advantage—and are probably at a disadvantage—in each of these areas (pp. 75-79). Their absence from the model is therefore consistent with conservative force planning. While it may be optimistic to assume a U.S. advantage in each category, it is not unreasonable to posit that the United States is better off in most. And, in any case, we can mount a substantive critique of Epstein's model without arguing that he should or should not include more variables; the ones he does include are problematic enough.

Consider Epstein's treatment of attrition rates and their relationship to the movement of the battle front. As discussed above, the purpose of the feedback mechanism is to simulate the process through which withdrawal reduces attrition and, consequently, affects the outcome of a prolonged engagement. The first problem is that the mechanism, although it affects movement of the front and the duration of the battle, does not change the eventual attrition outcome, as long as the battle is a fight to the finish and the potential effect of airpower on the ground war is excluded from consideration. Under these assumptions, the pace of the battle is affected by withdrawal, but the outcome is determined solely by ini-

[70] For further discussion of this basic problem, see U.S. General Accounting Office (fn. 3), 3-31, 87-109, 147-53; and Stockfisch (fn. 3), esp, 1-10, 128-31.

[71] Dupuy uses the term "intangible variables," which he defines as "those which are—at least for the present—impossible to quantify with confidence, either because they are essentially qualitative in nature, or because for some other reason they currently defy precise delineation or measurement." See Dupuy (fn. 32, 1979), 34.

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tial force levels (R and B) and the exchange rate (E). As long as the attacker maintains a force ratio above the defender's casualty-exchange ratio, he wins; if the initial force ratio is at or below the defender's exchange ratio, the attacker loses.[72]

Second, the logic behind the feedback mechanism appears to be suspect and at odds with historical experience. The mechanism operates on the assumption that the defender's attrition rate (A_b) is the primary determinant of withdrawal rates and the timing and extent of disengagement. When attrition reaches the threshold level (A_{bt}), withdrawal begins. In Epstein's own words, "the defender's rate of withdrawal *on* day t is a function of his attrition rate over the preceding day . . ." (p. 123; emphasis in original). But it is not at all clear that withdrawal always benefits the retreating party.[73] Given that advancing mechanized divisions can cover tens of kilometers per day, how far must a unit withdraw before it succeeds in breaking off an engagement? If the defender abandons fortified or prepared positions, might not A_b rise even if the attacker does not advance?[74] How will the effect of withdrawal on attrition rates differ when

[72] I am indebted to Stephen Biddle for this point. See also Mearsheimer, "Assessing the Conventional Balance" (fn. 3), 71. By "outcome," I mean winners and losers, not force levels at some interim point in the battle. While Epstein's model does integrate air and ground components, it is somewhat counterintuitive that the feedback mechanism, by which the model is made adaptive, can affect outcomes only by buying time for air power (a nonadaptive component of the model) to drive results. This is not meant to suggest that, in reality, such a relationship between withdrawal and attrition due to air power does not exist. As discussed below, one could also postulate that withdrawal can affect outcomes by allowing the retreating party to alter the ground battle by changing its position, force mix, or tactics in order to exact a more favorable exchange ratio. When the air model is included in the analysis, withdrawal will affect outcomes if the air balance differs substantially from the ground balance, causing attrition to diverge from its ground-only values. See Biddle, "The European Conventional Balance" (fn. 3, 1988), 119, n. 22. This criticism of the model does not take into consideration the possibility that prolongation of the battle could affect the outcome because of extenuating political circumstances, or that victory could be measured in terms of territorial gains/losses (movement of the battle front) rather than in terms of attrition of the enemy's capabilities. These assumptions, however, are consistent with Epstein's assertion that "the wartime objective . . . is taken to be *the attrition of the adversary's force*" (p. 73, emphasis in original). It should also be noted that withdrawal can buy time for the arrival of reinforcements, though reinforcements are not explicitly considered in the original model. For an extension of the model allowing reinforcements, see Epstein, "The 3:1 Rule" (fn. 3), 114, n. 59.

[73] It should be noted that withdrawal does not necessarily reduce the defender's attrition; the attacker can increase his prosecution rate to offset the defender's withdrawal. See *Strategy and Force Planning*, 123, ns. 11 and 12. Nevertheless, because the defender's attrition would be lower than if he had not withdrawn (assuming an advancing attacker), the feedback mechanism rests on the central assumption that withdrawal always benefits the retreating party.

[74] Two historical trends are relevant here. First, the better prepared a defender's position, the lower his attrition. Second, the faster the movement of the front, the lower the casualty rates for both attacker and defender. This is due to the fact that troops are engaged in maneuver and have less time to utilize their weapons. (See Dupuy, fn. 32, 1987, pp. 157, 176.) It is therefore reasonable to assume that when the defender first abandons his positions, the attacker should, at least temporarily, be able to inflict increasing casualties on the exposed defender. Attrition on both sides may then fall temporarily when the attacker begins his pursuit, and rise when he again engages the defender.

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a unit retreats to protected positions rather than to open territory? Historical examples in fact confirm that retreat can be very difficult, and that armies are often routed when they abandon defended positions and seek to break off the engagement.[75] Such considerations have important implications for the logic behind and the structure of the feedback mechanism.

The third problem is that it is by no means clear that the mechanism itself is theoretically sound. Withdrawal is often undertaken not in response to casualty rates, but in order to preserve cohesion and control of existing units and to prevent casualty rates from rising to catastrophic levels—that is, to prevent being overrun.[76] Furthermore, historical casualty rates are determined after the fact, not in the midst of battle. It seems dubious and unrealistic to assume that commanders can accurately assess casualty rates in the fog of war and withdraw or advance accordingly. Tactics and strategy play an equally important role in movement of the battle front.[77]

This brings us to a fourth problem associated with the feedback mechanism. Attrition rates can be reduced in Epstein's model only by withdrawal and disengagement. This is so because the exchange rate (E) is a

[75] Two examples illustrate the point. Between May 6 and 11, 1943, British and American troops battled Axis forces in the Medjerda Valley near Tunis. Allied troops first broke through enemy lines on the 6th and 7th, inflicting enough casualties to cause the Germans and Italians to withdraw toward Hammam Lif and Hammamet—areas that offered formidable natural barriers. By pursuing and attacking while the Germans and Italians were still withdrawing, however, the Allies routed the Axis powers and secured a surrender. The Allies took advantage of the confusion and disorganization that accompanied the retreat: "The brain and nerve-centre of the army was paralyzed, and nothing could function coherently any more." Alexander Clifford, quoted in Major-General J.F.C. Fuller, *The Second World War 1939-45* (London: Eyre & Spottiswoode, 1948), 249. The Battle of Jitra (Malaya, December 1941) also illustrates the potential dangers of withdrawal. The following details are drawn from Major General S. Woodburn Kirby, et al., *The War Against Japan—The Loss of Singapore*, vol. 1, Official British History of World War II (London: H.M.S.O., 1957), 205-15. See also Mearsheimer, "Assessing the Conventional Balance" (fn. 3), 75, n. 47; 88-89. At 8 A.M. on December 11, a Punjabi detachment of the Eleventh Indian Division, not without losing some ground, succeeded in halting an attempted Japanese breakthrough. At 3 P.M., the unit was withdrawn from the front, whereupon the Japanese almost immediately took the offensive again. By 4:30, the advancing Japanese had routed the Indians and "all attempts to withdraw the battalion in an orderly fashion failed. . . ." Similar efforts to withdraw proved equally disastrous on succeeding days. Units leaving their prepared positions often came under heavy enemy pressure, leading to disorganization and interrupted communications. Moreover, the Eleventh Division had been ordered to withdraw to Gurun (where there were no prepared defenses) rather than to Sungei Kedah (where formidable tank obstacles already existed). This decision facilitated the success of the continuing Japanese offensive and demonstrated the importance of withdrawing to protected positions.

[76] Epstein does acknowledge that factors other than attrition can affect withdrawal. See Epstein, "Dynamic Analysis" (fn. 3), 163, n. 19.

[77] For discussion of the ambiguous effect of attrition on disengagement and battle termination—phenomena related to withdrawal—see Robert L. Helmbold, "Decision in Battle: Breakpoint Hypotheses and Engagement Termination Data," R-772-PR (Santa Monica, CA: Rand Corporation, 1971), v. See also *CHASE Report* (fn. 32), chap. 6.

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constant and the defender's attrition $1/E[A_r(d)R(d)]$ is always in rigid proportion ($1/E$) to the attacker's attrition.[78] But does it make sense that the defender's losses throughout the battle should remain a fixed percentage of the attacker's losses? Could the defender not reduce his attrition by seeking to alter the exchange ratio, rather than (or in addition to) by disengaging? If the defender, for example, chose to disperse his forces while the attacker's forces remained concentrated, the defender should be able to induce a favorable change in the exchange ratio. A defender suffering high casualty rates in fixed positions might adopt maneuver tactics or even take the offensive to thwart the adversary.[79] A fixed exchange ratio virtually precludes the possibility that the defender can reduce attrition through tactics or through changing his force structure or weapons employment.

Because the exchange ratio is a constant, Epstein's model also falls prey to two of the very criticisms that he directs at Lanchester's square law: excluding the effects of air power, withdrawal does not affect attrition outcomes, and there are no limitations imposed upon force concentration by force-to-space constraints. As mentioned above, retreat can prolong the battle; but because the ratio of defenders lost to attackers lost remains fixed, the ground-only outcome depends only on initial force levels and the value of E. Furthermore, the attacker (or defender) can infinitely increase his force levels without suffering a degradation of the exchange ratio. Yet this is at odds with the historical evidence. Empirical data suggest that "the larger force suffers inefficiencies of scale in producing casualties when force sizes are grossly unequal."[80] In many cases, "small forces can

[78] In *Strategy and Force Planning*, Epstein discusses possible modifications to his model, including the introduction of a variable exchange ratio (p. 125, n. 16). Since the publication of his initial models, Epstein appears to have become aware of the rigidities introduced by a fixed exchange rate. In "The 3:1 Rule" (fn. 3), he notes that he is at work on an extension of his equations for ground combat. Epstein presents a mechanism to be included in his new equations that will allow E to vary with changes in the quality of the defender's position. He also discusses a possible generalization of E that would make the exchange ratio dependent on time, on the force ratio, and on standard effectiveness terms (pp. 112-13, ns. 55 and 56).

[79] Follow-on-Forces-Attack is a case in point. This plan calls for NATO forces to respond to a Warsaw Pact invasion with selected offensive strikes well into the enemy's rear. On the role of offensive conventional retaliation in NATO strategy, see Huntington in Miller.

[80] Taylor (fn. 7), 36. It is important to note that study of force-to-space constraints is still in a rudimentary stage. No rigorous studies exist of when diminishing returns set in, or of the extent to which optimal concentration levels depend upon terrain, weather, weapon system, or other variables. Furthermore, the mechanism through which high levels of concentration constrain effectiveness is underspecified. Is the crucial factor the simple absence of space for more units, the lack of mobility, the difficulties involved in target acquisition, or the extent to which concentrated forces are lucrative targets for the adversary? For assessments of numerical values for force-to-space constraints, see Posen in Miller, 106-10. Posen specifies one ADE per 12.5 kilometers as the "theoretical maximum" (p. 110, n. 44). See also Mearsheimer, "Numbers, Strategy, and the European Balance" (fn. 3), 177-79, and Epstein, "The 3:1 Rule" (fn. 3), 123-24, n. 84. For Soviet thinking on force density in the breakthrough zone, see Siderenko (fn. 42), 30-31.

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extract a favorable enough exchange ratio to make victory highly uncertain for large forces."[81] By positing a fixed exchange ratio, Epstein introduces rigidities into his model that make it quite unresponsive to force-to-space constraints and to the effect of movement of the front and changing tactics or force structures on the effectiveness of fire.[82]

The assumption of a constant exchange ratio is associated with one final problem in Epstein's combat model: small changes in force-level inputs can produce very large changes in force-level outputs because the equations constitute an unstable equilibrium model. This means that, once input force ratios diverge from the value at which the model is in equilibrium, the output force ratios can change rapidly.[83] In Epstein's ground model, if the force ratio is above the level at which equilibrium occurs, the force imbalance grows larger as combat progresses—chiefly because the exchange rate remains fixed.[84] As Stephen Biddle describes the problem with respect to a European conflict, "it would be possible to reach radically different assessments of NATO's likely fate on the basis of relatively modest differences of opinion about the initial balance of materiel."[85]

In short, the initial force-level values used in the model have a large

[81] Merritt and Sprey (fn. 50), 491.

[82] For an example of a model in which fire effectiveness is modified to take into consideration efficiencies of scale, see Taylor (fn. 7), 37ff. Many of the classified models used by government agencies do use variable exchange ratios. For further discussion of this problem, see Lowell Bruce Anderson, "A General Method for Relating Bounds on Attrition to the Average Rate of Movement of Ground Forces," unpub. (Alexandria, VA: Institute for Defense Analyses, July 1986), 2-3.

[83] In a stable equilibrium model, force imbalances would not grow wider over time, or would converge toward an equilibrium ratio. This is not to suggest that an unstable model may not be an appropriate reflection of reality, but that instability has important implications for policy and for the levels of uncertainty contained in the model's output. It should be noted that Epstein's model is less unstable than others frequently used within the policy community. See Biddle, "The European Conventional Balance" (fn. 3, 1988).

[84] *Ibid.*, 99. If the force ratio is below the level at which equilibrium occurs, the force imbalance grows progressively smaller until parity is reached; then the defender's force advantage grows progressively larger. These remarks assume that some level of attrition is occurring—that is, that the defender has not completely withdrawn from the engagement.

[85] *Ibid.*, 100. The following example illustrates this property of the model. Assume that R begins an engagement with 1400 units and B with 1000, an initial force ratio of 1.4:1. Daily attrition (A_r) is 5%, and the exchange rate is 1.4:1. Using equations 8 and 9 above to compute the values for R and B surviving after one day of combat, we find that $R(d + 1) = 1400 - .05(1400) = 1330$. $B(d + 1) = 1000 - 1/1.4(70) = 950$. As we can see, the force ratio is still 1.4:1. One more day of combat would produce the following results: $R(d + 2) = 1330 - .05(1330) = 1263.5$. $B(d + 2) = 950 - 1/1.4(66.5) = 902.5$. Again the force ratio after two days is still 1.4:1. Now assume that the initial force levels are $R = 2800$ and $B = 1000$, a ratio of 2.8:1. With the exchange ratio and attrition rates unchanged, we compute two days of combat as follows: $R(d + 1) = 2800 - .05(2800) = 2660$. $B(d + 1) = 1000 - 1/1.4(140) = 900$; the force ratio after one day of combat has shifted to 2.95:1. $R(d + 2) = 2660 - .05(2660) = 2527$. $B(d + 2) = 900 - 1/1.4(133) = 805$; the force ratio after the second day of battle is 3.13:1. If we continued the calculation, the force ratio would quickly grow grossly imbalanced.

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impact upon how the model behaves. Put differently, uncertainties in basic inputs can dramatically increase the margins of error that are present in the outputs. We must keep this mathematical tendency of the model in mind as we examine the data that Epstein uses in his combat equations.

Data and models. In addition to these conceptual problems with the models themselves, there are also significant shortcomings in the data used to assign values to the variables that are frequently present in dynamic equations. In his manual on combat modeling, James Taylor describes this predicament:

> The main problem is that the nature and quality of the available combat data is so extremely poor that we have no reliable "bench mark" against which to "calibrate" our combat models. Compared with the physical sciences, there is an almost complete lack of historical combat data . . . .[86]

Furthermore, in many cases combat data are the product of models and assumptions that are of questionable reliability and logical validity.[87] Information of uncertain quality is plugged into equations that are based upon questionable assumptions. The models thus contain numerous layers of uncertainty and the outcomes produced may fall within very wide margins of error. Under these circumstances, even if a model and its data were quite accurate, analysts and policy makers would have no choice but to treat the product with cautious skepticism.

The notion of the division equivalent—the basic input used to measure the combat power of opposing sides—offers the most straightforward example of this layered uncertainty. Subjectivity and potential error enter the calculation at each level of aggregation. Firepower indexes and weighting values for each weapon area are assigned without a sound empirical foundation. Furthermore, such indexes are of questionable value in live combat: "When employed on the battlefield weapons tend to drift away from their consistent predictability."[88] As discussed earlier, the aggregation of units and weapons into division equivalents takes at least three different forms, producing assessments of the balance that vary by over 20 percent. Furthermore, models that use ADEs or WUV scores as the basic input for force levels—as Epstein's does—are unable to distinguish what forces are actually destroyed in battle. For example, different weap-

[86] Taylor (fn. 7), 110.

[87] See U.S. General Accounting Office (fn. 3), 87-96, and Stockfisch (fn. 3), vi-viii. Information collected from historical battles is, as discussed above, unreliable and difficult to verify. Information collected from operational testing is sparse and of questionable worth in terms of its ability to represent the values that would obtain on an actual battlefield.

[88] Dupuy (fn. 32, 1979), x.

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ons indexes are assigned to different types of armored vehicles in a U.S. division. American combat power at any given point is thus dependent upon the different rates at which each type of vehicle is lost in battle—and, accordingly, upon how and where U.S. forces employ such vehicles in combat. The root of the problem is that there is a fundamental tension between using ADEs (or WUVs) as the force-level unit and relying on attrition rates derived from data on *personnel* casualties per day. There is no justification for assuming that a 5 percent loss of personnel per day is equivalent to a 5 percent loss in ADEs (or ground lethality) per day.[89]

Consider the threshold attrition rate (A_{bt}). Epstein assumes that a defender protecting his own territory withdraws when attrition reaches a maximum of 10 percent. Since neither U.S. nor Soviet forces would be defending their own territory, he assumes the withdrawal threshold to be 5 percent (p. 128, note j). The problem is that threshold rates in past wars have varied from nearly 100 percent for trench warfare to nearly zero percent for guerilla warfare. Epstein's 5 percent value therefore appears somewhat arbitrary.[90] Moreover, it does not take a large change in the threshold attrition rate to produce withdrawal results quite different from those produced under Epstein's assumptions.[91]

These problems are by no means unique to Epstein's model; there is considerable uncertainty in virtually all the data used in dynamic analysis. As Posen acknowledges in reflecting on the values used in his model: "Each of these variables is, for a variety of reasons, very difficult to gauge with confidence" (Posen in Miller, 115). Epstein turns to a standard analytic technique for dealing with these uncertainties: he consistently

[89] Assume, for example, that a tank crew normally consists of four men. If one crew member is killed, the tank could still function, although at a possibly reduced level of effectiveness. It is therefore of questionable value to assume direct proportionality between personnel losses and firepower losses. In fact, it is unclear whether the attrition rates Epstein uses refer to personnel, armored vehicles, or overall firepower, but most historical studies express attrition in terms of personnel casualties. (See Appendix D, 128, note j.)

[90] My consultations with military officers do not suggest that a 5% attrition rate—or any specific attrition rate—would lead to withdrawal with any degree of consistency or predictability.

[91] Epstein does present a sensitivity analysis in which he uses a 3% rather than a 5% threshold attrition rate. This small change does not alter who wins, but it does affect the displacement of the front by as much as 300 kilometers. (See pp. 144-45.) Douglas Karo has run a series of sensitivity analyses using Epstein's equations for the Persian Gulf scenario. He shows that small and very plausible changes in the value of variables such as the exchange ratio or initial force levels do, in fact, produce a Soviet victory in several of Epstein's cases. In Karo's words, "a small number of seemingly plausible adjustments [on the order of 5% of original value] to estimates of force size or effectiveness lead to vastly different outcomes for battle details such as front movement and even for the identification of winners and losers." In the scenario in which U.S. and Soviet forces are most closely matched (Case 3), "the conclusions reached by Epstein . . . appear to require accuracies in parameter estimation on the order of a few percent." See Karo, "The 'Adaptive Model of War' and Security Policy Decisions: A Technical Note," unpub. (Cambridge: M.I.T. Center for International Studies, 1988), 1, 4.

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chooses values for his variables that are conservative, that favor the adversary. Recall that he invites us "to discredit the conclusions . . . [by showing] *where* those admittedly unrealistic assumptions have been unfavorable to the Soviets."[92] Just how conservative are his assumptions?

The initial force levels that Epstein uses in his ground combat model do not appear to be favorable to the Soviets. Epstein assumes that the Soviet Union could send a maximum of eleven divisions to oil-rich Khuzistan in southern Iran. This figure corresponds to the number of divisions that Soviet logistics trucks could support in Iran without diverting resources from other theaters.[93] In short, the input for initial Soviet force levels is based upon the assumption that the Soviets would not be willing to deplete resources in other theaters in order to support an operation in Iran.

While this assumption may be plausible, it is entirely inconsistent with Epstein's treatment of the logistical constraints facing U.S. forces. He acknowledges that a timely deployment of U.S. troops to the Gulf (of only $4\frac{2}{3}$ divisions) "represents a compromise in the U.S. ability to reinforce other theaters simultaneously" (p. 64), but does not factor this consideration into his assessment of U.S. force levels.[94] It is more than plausible, however, to assume that a full-scale Soviet invasion of Iran would lead to increased tensions, if not outright mobilization, of Warsaw Pact and NATO troops in Europe. Under such circumstances, the United States would not want to devote its full lift capability to the Persian Gulf mission. We must also consider that the deployment of the RDF to Southwest Asia would lead to a 20 to 33 percent decrease in the number of U.S. troops available

[92] Epstein, *Measuring Military Power* (fn. 3), xxix.

[93] Epstein assumes that the Soviets would be drawing on the trucks of 24 divisions. (For his computations, see pp. 112-16.) It should also be noted that Epstein calculates the logistical constraints facing Soviet forces by computing the maximum number of trucks that could operate on the limited roadways through the Zagros Mountains. Thus, even if the Soviets diverted trucks from other theaters, they could not put them to use unless they improved or expanded existing roadways. (See pp. 66-67, n. 63.) If the Soviets were to upgrade one roadway from stone/gravel (type 2) to cement/bituminous (type 1), their logistical capability would rise considerably. This would allow for another 2,061 three-ton trucks per day. With half arriving loaded and half returning empty, the upgraded road would supply an extra 3,091 tons of provisions per day. Assuming Soviet troops are consuming 1,675 tons of supplies per division per day, the upgraded road would support close to another two divisions.

[94] Epstein acknowledges that deployment of the RDF would utilize "the full U.S. fleet of C-5 strategic transports" (pp. 63-65). Thomas McNaugher argues that when all lift procurement programs for the RDF are completed in 1988, the timely deployment of the RDF to the Gulf (five divisions in five weeks) would require "that *all* lift assets are set in motion simultaneously and that other contingencies do not rob CENTCOM of lift assets." (*Arms and Oil*, Washington, DC: The Brookings Institution, 1985, 67; emphasis added.) Note that McNaugher's calculations refer only to the time required from loading in the United States to unloading in the Gulf, not to the total time required from receipt of warning, to mobilization, to full deployment in Khuzistan.

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to reinforce Europe.[95] Epstein is thus suggesting that the United States would be more willing than the Soviet Union to divert resources from the central front. As the initiators of the conflict, however, the Soviets would know whether they intended to open operations in Europe as well as in Iran, and could allocate troops accordingly. The United States would meanwhile have to keep forces in Europe to protect against a Soviet attack and would certainly not maintain fewer forces on the central front during a war against the Soviets in Southwest Asia than it would in peacetime.

In sum, to assume that the United States would deploy its forces to the Gulf in the manner that Epstein posits is contestable, if not implausible, and skews the analysis in favor of U.S. forces. As Table 1 shows, if U.S. planners were willing to commit, say, only 75 percent of available lift to the Persian Gulf mission, force requirements would rise considerably because of the substantial losses that U.S. forces in Iran would initially incur while awaiting reinforcements. (See Appendix C for calculations.) Furthermore, Epstein's assumptions are inconsistent in that the Soviet Union is unwilling to deplete other theaters while the United States does so without hesitation. Because Epstein's model tends to telescope small changes in initial force inputs into large changes in force outputs, these considerations have serious implications for the value and accuracy of the conclusions produced by his dynamic analysis. A fundamental characteristic of virtually all current dynamic models is their sensitivity to change in certain key input values—especially in the initial force ratio. Judgments as to force ratio therefore have a critical influence over results. In the case evaluated in Appendix C, for example, we see that by making a small and, I would argue, very plausible change in the assumptions that determine initial force levels, the force requirements produced by Epstein's model virtually double.

In conclusion, the questionable fit between Epstein's model of ground war and actual war, the unreliability of the data used to run his model,

TABLE 1
LIFT AVAILABILITY AND FORCE REQUIREMENTS

Assumptions	*Output*
All lift to RDF	4⅔ divisions
75% lift to RDF	8 divisions

[95] U.S. Congressional Budget Office, *Rapid Deployment Forces—Policy and Budgetary Implications* (Washington, DC: G.P.O., 1983), 29-34. See also Charles A. Kupchan, *The Persian Gulf and the West* (Boston: Allen & Unwin, 1987), 120, 189-93.

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and the difficulty involved in arriving at consistently conservative assumptions raise serious questions about the levels of uncertainty present in assessments of military requirements produced by dynamic analysis. Although Epstein's equations can be used to study the dynamics of battle and to postulate how different force structures and weapons may affect outcomes, there is good reason to believe that his approach has not provided us with the ability to calibrate the process of setting military requirements. Epstein may well be right that a five-division force is sufficient to fulfill America's military objectives in the Persian Gulf. Yet this conclusion is based as much upon his informed professional judgment as upon his equations. Furthermore, the problems that plague Epstein's equations are by no means unique to his models; a lack of theoretical understanding of war and the unreliability of combat data present significant obstacles for *all* combat models.[96]

In sum, the conclusion of a British War Office study of war gaming in 1904 continues to be relevant: "Although the War Game furnishes an interesting study of the problem dealt with, it cannot be regarded as being based on conditions bearing a close resemblance to those which we are justified in supposing would obtain in actual war."[97] So, too, does J. A. Stockfisch's remark assessing the state of the art in 1975 still ring true: "Any assertions that current modeling efforts come up with regarding the marginal products of force-structure elements will be highly contestable."[98]

Conclusions

The new wave of conventional force literature has begun to fill an important gap in the strategic studies field. It has brought into the public domain the tools necessary for the informed analysis of conventional strategies. The fact that Pentagon analysts use essentially the same conceptual tools and methods allows us to think more critically about official assessments of the conventional balance. Careful analysis of these methods reveals at least one reason why the current debate is characterized by widely diverging assessments. Even small changes in the assumptions that produce the initial inputs used in combat models can lead to large changes in the output. Depending upon the assumptions one makes about

[96] Classified models used within the government planning community fall prey to similar methodological obstacles and face similar levels of uncertainty. See Paul K. Davis, "The Role of Uncertainty in Assessing the NATO-Pact Central-Region Balance," Rand Paper P-7427 (Santa Monica, CA: Rand Corporation, April 1988).

[97] P.R.O., CAB 38/5/43, May 5, 1904, "Defence of India: Observations on the Records of a War Game Played at Simla, 1903."

[98] Stockfisch (fn. 3), 122-23.

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factors such as the portion of U.S. lift assets allocable to a given mission, the readiness and mobilization requirements of different divisions, and the attrition rates that opposing sides are willing to suffer, the same combat model can produce both pessimistic and optimistic assessments of the East-West balance.[99]

The proliferation of literature on conventional force analysis offers methodologies for force planning such as WEI/WUV scoring, static force comparisons, and dynamic combat modeling that afford a more realistic assessment of the conventional balance than do analyses that focus only on the numbers of men and weapons on each side. However, claims of a new-found ability to calibrate the process of setting military requirements are premature and far too ambitious. The above analysis suggests that high levels of uncertainty plague model methodologies as well as combat data bases, and that sizable margins of error are therefore present in the output of both static and dynamic models. Epstein assumes that, by assigning conservative values to the variables in his equations, he is able to circumvent this uncertainty and to make definitive judgments about force requirements. Yet this assumption is unfounded because of conceptual problems with the model itself and because his assessment of what constitutes conservative values is highly contestable. To assert that the outputs produced by his equations suffice to provide a conservative gauge of material adequacy is to assign unwarranted accuracy to his analysis and to violate the rigorous standards that were to have guided the modeling enterprise.

These problems are by no means unique. Limited assimilation of the complexities of war plagues not only Epstein's equations, but all combat methodologies. The questionable quality of existing data bases, the difficulties inherent in data collection from both test sites and battlefields, and the context sensitivity of even "good" data may well preclude significant reductions in uncertainty. It is therefore important to consider the implications of pervasive and potentially irreducible uncertainty for modeling and for decision making and net assessment more generally.

In order to treat uncertainty in a methodologically rigorous manner, analysts must use force modeling not to derive a single measure of material adequacy for a given mission, but to generate upper and lower limits for force requirements by assigning the full range of plausible values to contestable variables. Because the range of outputs may be so broad as to offer negligible guidance in setting requirements, the political and stra-

[99] For further discussion of the differing assumptions that produce pessimistic and optimistic assessments, see Congressional Budget Office (fn. 3), 27-37, Posen in Miller, 83-91, and Biddle, "The European Conventional Balance" (fn. 3, 1988).

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tegic assumptions that produce outputs at both ends of the spectrum should be specified and used to inform the selection of specific force levels and structures. These assumptions fall outside the scope of the modeling effort and rely on informed debate about the nonquantifiable components of assessment—such as setting geographic priorities, determining yardsticks of sufficiency, and assessing intra-alliance coordination. Force modeling, then, can be used to set the parameters of the debate, but it cannot replace the need to base the actual selection of force levels on less quantifiable and more intangible elements of the assessment process.[100]

Making explicit the full range of political and strategic assumptions that produce a given output does not obviate the need to improve confidence levels and to include error terms with all assessments. In this respect, attempts to verify empirically breakthrough and front-wide threshold ratios hold promise. Clarification of how to test threshold ratios and careful analysis of past battles may confirm that there is a threshold ratio which, at least historically, has offered the defender a high probability of success. Further empirical research and an improved data base may also illuminate the factors that determine withdrawal and combat termination. Attempts to improve dynamic models should continue as well. Models with variable exchange ratios are important in this regard. A feedback mechanism that adjusts exchange ratios when force concentrations become too high would allow for greater sensitivity to force-to-space constraints and to shifts in movement of the battle front. Furthermore, a variable exchange ratio would be one means of creating models that would be less unstable mathematically—that is, models in which input force imbalances would not necessarily be telescoped into larger and larger force imbalances as a result of combat. The incorporation of tactical and doctrinal variations into model methodologies is also an important area for further research.[101]

Even with progress in these directions, however, the above analysis

[100] There is a striking parallel between this conclusion and the eventual result of the "revolution" in force planning that occurred in the McNamara Pentagon in the 1960s. The effort to calibrate the determination of requirements is, to a considerable extent, a rerun of the attempt to micro-manage defense policy under the Planning-Programming-Budgeting System (PPBS). In both periods, analysts have attempted to rationalize the planning and procurement process through quantification and modeling. Both efforts have confronted the same obstacles: a neglect of those variables that cannot be quantified and the quantification of other variables in a manner that is of dubious reliability and methodological rigor. It is of no small significance that in their published account of the PPBS years, Smith and Enthoven reveal their frustration over an inability to answer the question, "How much is enough?" and conclude that we must "quit pretending that there is a decisive authoritative basis for the military's stated 'requirements'." Smith and Enthoven (fn. 18), 224.

[101] Many of the models employed within the planning community already use variable exchange ratios; see fn. 82.

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suggests that state-of-the-art methodologies will suffer from analytic shortcomings and irreducible uncertainty. Although it is frustrating for politicians and force planners that it is impossible to arrive at a precise measure of "how much is enough," the uncertainty surrounding net assessment raises the question of whether such precision is desirable. When placed within its psychological and political context, analytic uncertainty may contribute to the stability of the balance and marginalize whatever force asymmetries exist. It is reasonable to assume that the Soviets have confronted similar methodological problems in assessing the balance, and thus face a high degree of uncertainty about the outcome of a war in Europe. Because states that initiate conflict generally have confidence in their ability to gain victory at relatively low cost,[102] and because decision makers prefer not to pursue policies that have unknown results and may entail high costs, this pervasive uncertainty should strengthen the barriers to aggressive behavior and war initiation.[103] The constraints on conflict initiation stem not only from the fact that the probability of victory may not be sufficiently high, but also from the recognition that all probability estimates are themselves extremely uncertain.[104]

[102] See Richard Ned Lebow, *Between Peace and War* (Baltimore: The Johns Hopkins University Press, 1981), 242-47, and Mearsheimer, *Conventional Deterrence* (fn. 3).

[103] This assessment of the effects of uncertainty on decision making is admittedly contestable. Uncertainty and complexity do not in all cases lead to indecision and conservatism; they can also lead to cognitive distortion and misinterpretation or to simplification of incoming information. Yet such reactions are most pronounced when decision makers are under considerable stress and when the alternatives to *not* going to war are extremely unattractive. See Lebow (fn. 107), 114. For example, the Allies decided to re-open the Eastern Front in 1918 despite pervasive pessimism about the ability of a new front to affect the course of the war. They were, however, driven by panic over Russia's collapse and Germany's consequent ability to focus all its forces on the Western Front. See Robert Jervis, *Perception and Misperception in International Politics* (Princeton: Princeton University Press, 1976), 379. Similarly, the Japanese attacked Pearl Harbor in 1941 despite their awareness that they would probably not be able to defeat the United States in an extended war. The problem was that the costs of *not* going to war—halting the expansion of, if not dismantling, the empire—were intolerable. See Betts, *Surprise Attack* (fn. 31), 130-38. In both of these cases, neither a more optimistic assessment of the balance of forces nor more certainty about the likelihood of defeat would probably have affected decision making: the Allies in 1918 as well as the Japanese in 1941 saw little chance of success to begin with. In the absence of an international crisis and a belief in the imminence of war, the uncertainty surrounding conventional assessment should thus breed caution among the decision makers of both potential adversaries. During periods of crisis, when the decision to attack may well be the result of desperation and fear rather than of rational calculation about the chances of success, levels of uncertainty about the balance of forces are unlikely to either enhance or erode deterrence. For a general work on decision making and coping with uncertainty, see John Steinbruner, *The Cybernetic Theory of Decision* (Princeton: Princeton University Press, 1974), esp. 65-71.

[104] Similar arguments have been put forward with respect to nuclear deterrence: uncertainty about the adversary's intentions and capabilities raises the barriers to first use. Edward Rhodes, for example, argues that the United States could enhance deterrence by deliberately making the Soviets more uncertain about U.S. intentions and about Washington's ability to control nuclear war once it starts. (*Power and MADness*, New York: Columbia University Press, forthcoming 1989). Donald Snow argues that technological breakthroughs in missile

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If we accept the popular characterization of Soviet behavior as conservative and risk-averse, the irreducible uncertainties of conventional assessment combined with the risk of nuclear escalation further enhance deterrence. Moreover, in view of the political changes occurring within the Soviet Union and the prospect of major troop withdrawals from Eastern Europe as well as of the abandonment of offensive configurations, it may become obsolete even to base U.S. force levels on the postulation of Soviet attacks in Southwest Asia or Europe.

If this evaluation of the irreducible uncertainty inherent in conventional assessment and the implications of that uncertainty for deterrence is accurate, then the inability of the modeling enterprise to determine requirements with precision should not be a cause for alarm. Marginal changes in force structure and level appear to be of little consequence so long as both sides maintain forces large enough to deny the adversary the ability to predict with confidence the outcome of war. The ability to determine force levels and military strategy under conditions of uncertainty may not only be unavoidable; it may also be preferable.

This conclusion does not obviate the need to improve upon existing methods of conventional assessment; we are far from being able to put at risk the margin of uncertainty that contributes to effective deterrence. Furthermore, we must not ignore the possibility that deterrence may fail. To the end of contributing to the assessment effort, this essay has offered criticism that should stimulate a wider and more informed debate about the military balance and the process of setting conventional requirements.

APPENDIX A
Sample WEI/WUV Calculations

1. WEI Derivation for Tanks

The WEI formula for tanks is

$$\text{WEI} = .45F + .25M + .30S$$

F = Firepower Index
M = Mobility Index
S = Survivability Index

The effectiveness coefficients were determined by soldiers experienced in tank combat. The firepower index is calculated through the following equation:

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accuracy or in antisubmarine warfare could erode strategic stability by removing the uncertainty about the effects of nuclear exchanges upon which deterrence rests: "This ability to calculate profitability from first-striking is absolutely anathema to developed deterrent notions. . . ." (*Nuclear Strategy in a Dynamic World*, University, AL: University of Alabama Press, 1981, 208.)

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$$F = .31ADC \times P + .21FM + .17N + .13AF + .11W + .07C$$

ADC = armor defeating capability
P = stabilization factor
FM = fire mission time
N = limited visibility
AF = ammunition types available and basic load
W = auxiliary weapons available
C = intercommunications

The mobility index is calculated through the following equation:

$$M = .16GP + .13CR + .11GC + .10V + .10SL + .09T + .07WO + .07RS + .06GW + .05LVE + .04TC + .02LWT$$

GP = ground pressure
CR = cruising range
GC = ground clearance
V = step vertical obstacle traversing
SL = slope climbing
T = trench spanning
WO = water obstacle crossing
RS = road speed
GW = gross weight
LVC = limited visibility enhancement
TC = vehicle commander to drive intercom
LWT = length/width track pad

The survivability index is calculated through the following equation:

$$S = .24AP + .19PA + .15H/T + .12AS + .10AD + .08FE + .06NBC + .06FS$$

AP = armor protection
PA = presented area
H/T = horsepower/ton
AS = ammunition storage
AD = active defensive systems
FE = fire extinguishing systems
NBC = nuclear, biological, chemical defense systems
FS = fuel storage

The category weight for tanks in offensive engagements is 100; in defensive engagements, it is 94. The WUV calculation for the tank component of the U.S. 3rd Armored Division (in 1979) in a defensive engagement would be:

Tank	*WEI*	*# of Weapons*	*WEI × #*	*Category Weight*	*WUV*
M60A1	1.00	252	252.00		
M60A2	1.07	108	115.56		
XM-1	1.31	0	0		
Totals			367.56	× 94	= 34,550.64

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2. Category Weights by Attack/Defense Posture and Theater

Table 1
Category Weights: Europe

	Attack		*Defense*	
	1974	*1979*	*1974*	*1979*
Tanks	100.0	100.0	86.0	94.0
Armored Reconnaissance Vehicles	65.2	62.0	56.2	63.0
Attack Helicopters	51.6	89.0	68.8	109.0
Air Defense Systems	29.7	44.0	43.8	56.0
Infantry Fighting Vehicles	N/A	69.0	N/A	71.0
Antiarmor	42.0	55.0	71.9	73.0
Artillery	112.5	92.0	132.8	99.0
Mortars	57.8	48.0	73.4	55.0
Armored Personnel Carriers	20.3	36.0	9.4	30.0
Small Arms	1.6	3.3	1.9	3.7

Table 2
Category Weights: 1979

	Europe		*N. E. Asia*		*Middle East*	
	Attack	*Defense*	*Attack*	*Defense*	*Attack*	*Defense*
Tanks	100	94	100	90	100	95
Armored Reconnaissance Vehicles	62	63	60	60	70	66
Attack Helicopters	89	109	104	120	102	115
Air Defense Systems	44	56	52	61	48	59
Infantry Fighting Vehicles	69	71	72	65	76	75
Antiarmor	55	73	55	66	64	77
Artillery	92	99	108	112	95	102
Mortars	48	55	64	73	50	56
Armored Personnel Carriers	36	30	36	31	39	34
Small Arms	3.3	3.7	4.5	5.2	3.1	2.6

Source: "Weighted Effectiveness Indices/Weighted Unit Values III," Study Report CAA-SR-79-12 (Bethesda, MD: War Gaming Directorate, U.S. Army Concepts Analysis Agency, 1979).

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APPENDIX B
Epstein's Feedback Mechanism

The variables used in the ground combat equations are as follows:

$R(d)$ = Attacker's ground lethality on day d measured in WUV scores.
$B(d)$ = Defender's ground lethality on day d measured in WUV scores.
A_{rg} = Attacker's ground prosecution rate per day.
A_r = Attacker's attrition rate per day.
A_{rt} = Attacker's threshold (equilibrium) attrition rate.
A_b = Defender's attrition rate per day.
A_{bt} = Defender's threshold attrition rate.
E = Attacker's ground lethality killed per defender's ground lethality killed (exchange ratio).
W = Defender's rate of withdrawal in kilometers per day.
W_{max} = Defender's maximum rate of withdrawal.
d = time in days.

The feedback mechanism relating withdrawal to attrition works in the following manner: The attacker's daily attrition rate (A_r) produces a daily attrition rate for the defender (A_b) through the inverse exchange ratio, $1/E$. When the defender's daily attrition rate (A_b) exceeds his threshold rate (A_{bt}), he begins to withdraw ($W(d)$ increases), thereby reducing the attacker's attrition rate (A_r) through the equation: $(A_r) = A_{rg}[1 - W(d)/W_{max}]$. In turn, this reduction in the attacker's attrition rate, again through $1/E$, reduces the defender's attrition rate. The feedback mechanism will continue until the defender's attrition rate equals or falls below his threshold rate (A_{bt}). Similarly, the attacker will increase or decrease the pace of battle (A_{rg}) until his attrition rate approaches his threshold value (A_{rt}).

APPENDIX C
RDF Force Requirements under Constrained Lift Availability[1]

Assume that, because of partial NATO mobilization in Europe due to a Soviet invasion of Iran, U.S. authorities allocate 25 percent of U.S. sealift and airlift capability to send troops to Western Europe. Because the deployment of a 4⅔-division RDF relies upon most, if not all, available lift, we can assume that only 75 percent (3.5 divisions) of the RDF would be in place in Iran at the beginning of hostilities in Khuzistan.[2] We can also posit that the initial WUV score for U.S. forces is 75 percent of the score for 4⅔ divisions, or 152,799.[3]

[1] These calculations are approximate and intended only to outline how *very plausible* lift constraints would affect force requirements for the RDF. Of the scenarios presented by Epstein, I am choosing that which seems most plausible: a Soviet build-up in northern Iran before attacking the United States in Khuzistan. Epstein's calculations for this scenario, upon which the following analysis is based, can be found in Appendix D-6 of *Strategy and Force Planning*.

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hostilities in Khuzistan.[2] We can also posit that the initial WUV score for U.S. forces is 75 percent of the score for 4⅔ divisions, or 152,799.[3]

After thirty days of battle against 10.88 Soviet divisions (with a WUV score of 330,530), a 4⅔-division RDF loses 169,475 WEIs (203,732 − 34,257). If the initial WUV score for the United States was 152,799 and given that U.S. losses would accrue much faster than in Epstein's case because of the unstable properties of the model (see p. 565 above), the entire U.S. force would be destroyed in less than one month.

Assuming that the United States wanted to continue to defend the oilfields, it would need to send at least an additional 4⅔ divisions to Iran in order to stalemate the Soviets.[4] (We must also assume that the Soviets would replace their losses in Iran as long as the United States was doing so.) Given that the United States would already have lost its pre-positioned assets and its lighter divisions, it is doubtful that it could deploy an additional four divisions in Iran by the end of the first month of combat.[5] Such a deployment could only be made if NATO was no longer mobilizing and all lift could be used for the Persian Gulf mission. If the United States were willing and able to undertake this reinforcement, however, requirements for the RDF would be at least eight divisions.

[2] To simplify the calculation, I am assuming a direct proportionality between lift used and divisions deployed. The exact number of divisions that could be deployed in Iran within three months would depend upon which divisions were sent (air mobile or mechanized) and upon which lift assets were allocated to the European mission (aircraft or ships).

[3] That a 75% decrease in lift produces a 75% decrease in the initial U.S. force level (WUV score) is a conservative assumption (favorable to the Soviets) inasmuch as it is the arrival of the heavier divisions—such as the 24th Mechanized—that would be delayed.

[4] I am assuming that units do not enter the battle as they arrive, but that they must await arrival of command-and-control infrastructure, logistical support, etc.

[5] McNaugher (fn. 96, p. 68), shows that the United States could send four divisions to the Gulf in four weeks, but this assumes use of a prepositioned Marine division and the lighter 82nd Airborne and 101st Airmobile Divisions.

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STATE AND SOCIETY IN CONTEMPORARY CHINA

By ELIZABETH J. PERRY

Andrew G. Walder, *Communist Neo-Traditionalism: Work and Authority in Chinese Industry*. Berkeley, CA: University of California Press, 1986, 302 pp.
Vivienne Shue, *The Reach of the State: Sketches of the Chinese Body Politic*. Stanford, CA: Stanford University Press, 1988, 175 pp.

EVER since its inception some three decades ago, the field of contemporary Chinese politics has suffered an uneasy relationship with the political science discipline to which it ostensibly belongs. Models borrowed from the general discipline—most notably, totalitarianism and pluralism—have proved incapable of capturing the peculiarities of the Chinese case, but the study of Chinese politics itself has not generated convincing theories for either China scholars or general comparativists.

Twenty years ago, Tang Tsou cautioned in the pages of this journal that the China field could attain maturity "only when scholars specializing in area studies can fashion new concepts, generalizations, and theories of universal or general applicability."[1] Two years later, Richard Wilson still characterized the China field as suffering from "isolation and intellectual barrenness."[2] And just five years ago, Harry Harding, in another review article in this journal, concluded that "the process of integrating China studies and comparative politics has not gone far enough. ... While they have borrowed ideas from comparative politics, China scholars have yet to make a significant contribution in return."[3] Charging the "second generation" of China specialists (i.e., those who wrote in the 1970s) with theoretical fuzziness, lack of comparative perspective, and naïveté toward the Cultural Revolution, Harding called for a "third generation" of scholars able to bridge the yawning gap between the fields of Chinese and comparative politics.

Fortunately for both fields, recent works by Andrew Walder and Vi-

[1] Tang Tsou, "Western Concepts and China's Historical Experience," *World Politics* 21 (July 1969), 655-91, at 664.
[2] Richard W. Wilson, "Chinese Studies in Crisis," *World Politics* 23 (January 1971), 295-317, at 297.
[3] Harry Harding, "The Study of Chinese Politics: Toward a Third Generation of Scholarship," *World Politics* 36 (January 1984), 284-307, at 297.

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vienne Shue indicate that the "drive to maturity" for which Tsou, Wilson, and Harding had hoped may at last be under way. These two books offer self-conscious and sophisticated theory, a fascinating exposé of the ironies of Maoism, and an explicitly comparative outlook. While most of the data they present are available in previously published articles (by Walder, Shue, and others) in specialized China journals, the authors perform the herculean task of developing a fresh perspective on familiar material. The results are of interest not only to China scholars, but to general comparativists as well.

Andrew Walder's study of authority relations in contemporary Chinese industry is framed as "a window on political relationships characteristic of this type of state and society . . . an inquiry into the social foundations of a communist political order" (pp. 1-2). Vivienne Shue's book is presented as a series of "essays about how to think about the Chinese state: about its complex structures, roles and capacities; about its interrelations with Chinese society as a whole and with rural social organization in particular; and most especially about the process of its evolution, the patterns of change we can discern not only in its forms and functions but also in its most fundamental ethos" (p. 1). These are ambitious designs, facilitated both by our increased factual knowledge of contemporary China and by the newfound interest in state-society relations that has characterized comparative politics theory of late.

Walder and Shue both begin their analyses with a critique of previous "paradigms"—in particular, the totalitarian and pluralist models. For Walder, the totalitarian model placed too much emphasis on the role of coercion, impersonal ideology, and social atomization. His own "neo-traditional image," by contrast, stresses the positive incentives that communist systems offer for compliance, their particularism in the allocation of rewards, and the clientelist networks that flourish under their peculiar form of political and economic organization. The problem with the pluralist model, according to Walder, is that it accords too high a priority to social groups as the basic unit of political behavior. His neo-traditional image stresses the social network, rather than the group, as its main structural component.

Shue points out that the vicissitudes of the Cultural Revolution in China and the popularity of the "behavioral revolution" in this country combined to undermine the credibility of the totalitarian model. The pluralist perspective that replaced it, however, "had little to teach us about the politics and the power of the state vis-à-vis society" (p. 19). Characterizing the Chinese state as a "modernizing dictatorship," Shue calls for

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a "process approach" by which to explore patterns of interaction between structure and culture, state and society.

For both authors, then, a state-society perspective promises to remedy the serious shortcomings of previous ruling paradigms. But neither author is content to adopt wholesale for the Chinese case the state-society models that have recently gained currency in the study of other, quite different, countries. Instead, each intends, through a new reading of the Chinese materials, to make a contribution of theory as well as application.

Central to the interpretation of both authors is the importance of the nonmarket economy in shaping a pattern of social and political relationships unlike those that have been elucidated for capitalist states. Contemporary China's lack of a free labor market has meant that factory laborers as well as peasants are bound to their work units in a manner more suggestive of feudalism than of either industrial or agrarian capitalism. To be sure, the enforced dependence on one's work unit is not without substantial benefits for ordinary citizens; factories and communes have regularly distributed a wide range of material and nonmaterial resources to their members. Since such goods have not been readily available through market channels, dependence upon one's unit has become both necessary and desirable for most Chinese.

What is the significance of this workplace dependence for state-society relations in contemporary China? To this key question Shue and Walder offer somewhat different answers. For Walder, who points out that "the workshop is coterminous with the party branch," worker dependence on the enterprise permits the party/state supervisors an extraordinary degree of control over the work force. Although only a minority of workers become "activists" who enthusiastically promote party policies, the cooptation of this ambitious and competitive group results in a divided work force. As Walder puts it, "the distinction between activists and nonactivists . . . in the communist factory . . . is easily the most politically salient social-structural cleavage" (p. 166). Maoism, despite its rhetoric of collectivism and egalitarianism, served to reinforce "a growing gulf . . . between the behavior of activists and nonactivists" (p. 219).

For Shue, on the other hand, the basic work unit is seen as a solidary entity whose very parochialism has posed a serious obstacle to state control; her analysis suggests "less direct and unmediated central penetration . . . than is frequently supposed" (p. 54). Rather than dividing the populace into new, irreconcilable political factions, Mao's anticapitalist policies buttressed "cell-like communities" and "subcultures of localism" that had predated the revolution by centuries.

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Walder paints a picture of a "remade" society in which workers are tied to their work units through structures created de novo by the communist state. Although the clientelism and instrumental bonds that develop under these conditions bear a superficial resemblance to pre-communist patterns, they are actually an entirely new species of political/social relations; hence the term "neo-traditionalism" to characterize them. For Shue, however, the link to tradition is more than superficial: "As China's socialist state center extended its authority over the periphery after 1949, it naturally made certain far-reaching changes in the structure of peasant society, but it may in some respects have preserved and strengthened the old peasant social formation as well" (p. 53).

Shue traces the tension between center and periphery that she identifies as a fetter on state hegemony in contemporary China back to an ancient pattern of Chinese state making marked by an enduring struggle between center and locality. She coins the term "honeycomb polity" to refer to the segmented, parochial structure of politics that has flourished in China over the centuries as a result of the "relative restriction of advanced capitalist relations" (p. 105). In her view, the "distinctive element in the Chinese approach to governance" has been a "synthesis that effectively *forestalled the necessity* of a decisive transition from the honeycomb polity of premodern particularism to the centrally coordinated and penetrating networks of modern statism" (p. 89). Walder, in contrast, portrays a contemporary China in which state initiatives *have* created a network society: "If we wish to understand how political rule is exercised or the sources of political stability, we must start with . . . enduring network ties that . . . lead ultimately to the organization of the ruling party itself" (p. 246).

In Walder's network society, the "pervasive personalization of party rule" persuades workers to exhibit "a stable pattern of tacit acceptance and active cooperation for the regime that no amount of political terror, coercion, or indoctrination can even begin to provide" (p. 249). For Shue, however, "the Chinese party/state, . . . a self-described dictatorship . . . , has provoked resistance; sometimes outright resistance, sometimes indirect or evasive resistance, and sometimes only privately internalized resistance, or alienation" (p. 19).

How do we reconcile these divergent pictures of state-society relations in contemporary China—a new, party-dominated, divided, yet compliant network society on the one hand, and an enduring, localistic, solidary, and resistant cellular society on the other? An obvious starting point is the fact that Walder and Shue build their interpretations from a focus on very different sectors of Chinese society. Whereas Walder's research

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has centered on workers in urban factories, Shue has concentrated on peasants in rural collectives. The radically different conditions of life in urban and rural China—exacerbated by antimarket Maoist policies that limited geographical mobility and enforced self-reliance—suggest a very different set of state-society relations in city and countryside. In urban factories owned by the state, the weapon of party/state domination is easily wielded. In the countryside, however, land, labor, and capital are generally under collective—rather than state—control. Accordingly, local resistance to state initiatives becomes more feasible. If in state-owned factories the rewards to be gained by submission to state policy tend to outweigh the risks of disobedience, the same is not necessarily true in the countryside, where the state offers fewer incentives for compliance.

In proposing a general state-society model based upon a *single* social sector, Walder and Shue (along with many other state-society theorists) imply—analytically, if not empirically—a relatively homogeneous society in which regional and structural diversity does not play a central role. To be sure, both authors take care to *describe* Chinese society in differentiated terms. Shue points to a plethora of local subcultures and Walder distinguishes among a range of worker status groups. Yet neither incorporates this variation into the *models* of state-society relations they construct. While the field of Chinese history—inspired in large measure by the regional systems analysis of anthropologist G. William Skinner[4]—has been busy developing a nuanced picture of local diversity, the contemporary China field lags far behind in its understanding of geographical and structural variation.

If local subcultures are in fact as salient as Shue suggests, we need some systematic guide to the dimensions along which they differ and the ways in which such differences influence local politics. We know, for example, that mobile Muslims in China's arid Northwest live very differently from settled Han peasants tilling the rich soil of the Yangzi delta. And even on the seemingly uniform North China plain, one wheat-growing village may diverge markedly from the next in its social and political character. The relative importance of religious traditions, ecological circumstances, community organization, etc., will have to be explicitly considered if we are to take advantage of the possibilities for subnational comparison that China so generously affords. Here a "cellular" or "honeycomb" metaphor, in which each local unit is virtually indistinguishable from its neighbor, offers little help. The problem is certainly not Shue's alone. When studies of contemporary China *have* focused on particular areas,

[4] See, especially, G. William Skinner, ed., *The City in Late Imperial China* (Stanford: Stanford University Press, 1977).

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the authors have usually been anxious to present their cases as representative of Chinese politics as a whole, rather than to highlight the significance of local diversity.

The question of generality is even more troubling in Walder's analysis. Although he does an excellent job of delineating status groups within the labor force, Walder's model is clearly skewed toward one particular group: permanent workers in state enterprises. Yet by his own admission this select group of some twenty-seven million workers is a privileged minority; entry to its coveted ranks has become more difficult even for urban residents to attain.[5] In effect, then, Walder's model, which emphasizes the structure of incentives in state enterprises, is really a model derived from and most applicable to China's labor aristocracy. As a mere 2.5 percent of the Chinese population—and a dwindling group at that—permanent state workers would seem a shaky foundation upon which to build a theory of Chinese society.

For the majority of the industrial work force, employed in rural and urban collective enterprises or as temporary workers in state factories, the party/state is certainly less visible both as a supplier of scarce resources and as a source of political signals. Furthermore, if permanent state workers comprise a favored minority within the *industrial* labor force, how much more fortunate is their status contrasted with that of the vast majority of peasants for whom even the bottom rung of industrial work is seen as a major step up. Surely we would expect some systematic variation (in the importance of the dichotomy between activists and nonactivists, the degree of dependence on superiors, the extent to which clientelism is linked to the party, etc.) when we compare the privileged permanent state worker to temporary workers, collective workers, or peasants.

Only through comparative study of the differences and interactions among various social elements can we begin to define the conditions under which they may be inclined toward, or capable of, challenging state demands. Shue's interview data are convincing evidence that local resistance, led by rural cadres, is a way of life in the Guangdong countryside. Walder's interview data, on the other hand, amply demonstrate the party's ability to forestall organized defiance in many state factories. Both sets of information are critical pieces of the complicated jigsaw puzzle that must somehow be put together if we are to develop an adequate picture of state-society relations in contemporary China. It is precisely because of its tremendous diversity—from city to countryside, factory to

[5] In the first quarter of 1988, the number of workers in state enterprises declined by 680,000 (*Wen Hui Bao*, May 10, 1988).

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farm, region to region—that China offers such fertile ground for an important breakthrough in comparative political theory. The contrary findings of Shue and Walder suggest that state autonomy, i.e., the capacity to implement and enforce policies in the face of potential opposition, may vary dramatically from one social sector to another. Further exploration and explanation of this variation promises to be of considerable interest to general comparativists as well as to China scholars.

For area specialists to make a contribution to state-society theory requires not only that they be sensitive to diversity within their own region of the world, but also that they be familiar enough with other cases to know in what directions and how far they can extend a theoretical insight. On this score, Walder's book is especially impressive. Having discovered in the course of his doctoral research that Chinese factories were marked by dependence, particularism, and clientelism, Walder then embarked on a journey in comparative industrial sociology to determine just how unique or universal these patterns might be. He summarizes his findings,

> The more I read about the Soviet Union and Eastern Europe, the more I came to realize that the Chinese features I had thought so distinctive were in fact variants of generic communist patterns of authority. The more I read of Chinese factories in earlier historical periods, the more I was convinced that these patterns were recent developments introduced by communist political and economic organization. The more I read of Japanese industry, the more I realized that, underneath the superficial similarities, there are fundamental differences with China in factory institutions, group relations, and patterns of advancement and reward. The more I read of the United States, and particularly of studies of informal organization in industry, the more I began to doubt whether the common distinction between the formal and the informal makes sense in analyzing the phenomenon of party-clientelism. And the more I read of personal networks, patronage, and political clientelism in other settings, the more I became convinced that communist labor relations embody basic structural differences from the patterns described elsewhere (p. xiv).

It is on the basis of explicit comparison—with pre-1949 China, with other socialist countries, with Japan, and with the United States—that Walder arrives at his model of communist neo-traditionalism.

Shue also conducts comparative forays, most notably into imperial Chinese history and Western European state making, but in the end she remains more impressed with the idiosyncrasy of the Chinese case. In direct contrast to Walder, Shue finds that

> though East European revisionist theories had much of interest to teach us about socialist states and societies, their dilemmas of government had crys-

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> tallized into social formations so thoroughly unlike the Chinese that true parallels, lessons, and comparisons were, sadly, very scarce (p. 2).

The apparent contradiction between Walder's classification of China as a species of the genus "communism" and Shue's interpretation of China as sui generis is again partially explicable in terms of their different research foci. The state industries studied by Walder, many of which had no pre-1949 history, have naturally been more responsive to communist initiatives than rural communities whose traditions stretch back for centuries. The resilience of peasant social formations, especially in light of Maoist policies that encouraged self-sufficiency and reinforced old bonds of family and village, is only to be expected in a country that still remains overwhelmingly rural.

But the question of contemporary China's relationship to its own history cannot be resolved simply by drawing a line between city and countryside, with rural areas still caught up in a Chinese tradition that has long since been superseded in the "communist" cities. Even among the industrial working class, can we not detect the heavy hand of history? Walder proposes a bold thesis that the working class was "remade" by the communist regime: "In China and the Soviet Union the contemporary working-class is itself a creation of the industrial drive directed by the party-state" (p. 85).[6] In this view history becomes quite irrelevant, except to illustrate the contrast with contemporary practices. There are, however, several objections to be raised about such a perspective.

First, it underestimates the part that workers played in both the Chinese and Russian revolutions. In the case of Russia, while conventional interpretations tended to picture the revolution as the work of a small group of highly organized activists, recent studies have illuminated the central role played by the workers of Petrograd and Moscow in the rise of the Bolshevik Party.[7] Although the social base of the Chinese Revolution was certainly more peasant than working class, China's workers also exerted a political impact far beyond what their meager numbers might suggest. The Chinese Communist Party, founded in 1921 as a tiny group of disgruntled intellectuals, developed its first mass constituency among factory workers. From 1925 to 1927, the historic May Thirtieth strike wave, followed by the Shanghai Three Armed Workers' Upris-

[6] See also Andrew G. Walder, "The Remaking of the Chinese Working Class: 1949-1981," *Modern China* 10 (January 1984), 3-48.

[7] Diane Koenker, *Moscow Workers and the 1917 Revolution* (Princeton: Princeton University Press, 1981); David Mandel, *The Petrograd Workers and the Fall of the Old Regime* (New York: Macmillan, 1983); Steve A. Smith, *Red Petrograd: Revolution in the Factories, 1917-1918* (Cambridge: Cambridge University Press, 1983); Daniel H. Kaiser, ed., *The Workers' Revolution in Russia, 1917: The View from Below* (Cambridge: Cambridge University Press, 1987).

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ings, helped to rout the forces of the warlords and welcome the new Nationalist regime to the industrial capital of China. Although communist labor organizers and sympathizers were brutally suppressed in Chiang Kai-shek's coup of 1927, worker unrest continued to plague the Nationalist authorities until their demise in 1949.

This historical record is of more than passing interest to the student of post-'49 politics. Although we are sometimes tempted to think of the communist state as an entirely new entity, endowed with superhuman powers, it is important to keep in mind that the state was really a collection of *people*, whose formative experiences lay in the preliberation period. The architects of the new policies of socialist industry had themselves been key figures in the earlier labor movement. Chen Yun, Liu Shaoqi, and Zhou Enlai, to name but three, had all been deeply involved in labor organizing since the 1920s. Moreover, their primary constituency among the working class was heavily drawn from the ranks of the literate, skilled, and well-paid "factory artisans." Like their counterparts in Russia and elsewhere around the globe, these industrial craftsmen stood at the forefront of labor radicalism in China.[8] And, like their peers in other countries, they had long been outspoken advocates of increased security and welfare for workers. When such individuals assumed leadership positions in the new industrial order, it was only natural that they should help to shape a factory system that put a premium on job security and worker welfare. The resultant pattern of worker dependence, which Walder analyzes with such insight, thus bears more than a casual relationship to labor history.

The legacy of the early Chinese labor movement goes beyond the matter of top-level industrial policy. Ordinary worker politics also bear the stigmata of past struggles. This became evident during the early years of the Cultural Revolution, when factional violence among workers reflected the strong influence of pre-1949 history. Factional lines were drawn largely along a generational division, with older workers (who joined the labor force before liberation) pitted against younger workers. The senior generation, proud of its participation in the revolutionary events of bygone days and well compensated both economically and politically by the socialist regime, tended to join "conservative" factions that

[8] For a discussion of "factory artisan" radicalism in France, see Michael P. Hanagan, *The Logic of Solidarity* (Urbana: University of Illinois Press, 1980). The sources listed in the previous footnote concur in the importance of factory artisans, especially skilled metalworkers, in the Bolshevik Revolution. For a discussion of the role of Shanghai factory artisans in the communist labor movement, see Elizabeth J. Perry, "Work and Politics in the Making of a Chinese Proletariat" (Paper presented at the annual meeting of the Association of Asian Studies, March 1988).

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made only modest demands on the state. Younger workers, resentful of the privileges of their elders, flocked to "radical" factions calling for an overhaul of the system.[9]

The importance of age, experience, and status in shaping the political proclivities of contemporary Chinese workers raises some question about Walder's network model. To be sure, Chinese workers did split into factional networks whose political fortunes were ultimately determined by those of their patrons at the higher echelons of the regime. But must we go as far as Walder in claiming that "information about group characteristics, boundaries, and their inferred interests, no matter how complete, cannot tell us anything about these networks and allegiances" (p. 244)? I would argue that the connection between group interests and network allegiances is often much closer than Walder suggests. His contention that "no matter what their current income or skill level, worker political orientations are determined by their adoption of active-competitive or passive-defensive strategies" (p. 244) borders on the tautological. If neither group characteristics nor political orientations can be used to explain behavior, we are left with behavior itself ("the adoption of strategies") as the prime mover. But why *do* people adopt one or another strategy? It is undoubtedly true that we are all inclined to go along with those with whom we share a relationship, but how did that relationship ever evolve in the first place? Surely social backgrounds and orientations are not irrelevant to the answer.

By locating the source of political divisions entirely within the state-defined activist/nonactivist dichotomy, Walder presents a picture of a political system remarkably immune to fundamental change. And yet, as Walder and the rest of us are well aware, socialist China has been subject to extraordinary political fluctuations in its brief forty-year existence. How do we explain these changes in a system where workers exhibit "compliance and an unfocused acceptance of the political status quo" (p. 248)? The difficulty is common to structuralist models. As Paul Willis has noted, "structuralist theories of reproduction present the dominant ideology as impenetrable. Everything fits too neatly. . . . On the contrary, and in my view more optimistically, . . . there are deep disfunctions and desperate tensions within social and cultural reproduction."[10] Walder certainly does discuss cynicism and informal organization among the workers, but he does not see these as sources of system change. Indeed, he is at

[9] Interviews with former Red Guards conducted in China in 1986 and 1987. See also Hong Yung Lee, *The Politics of the Chinese Cultural Revolution* (Berkeley: University of California Press, 1978), 137.

[10] Paul Willis, *Learning to Labour* (Westmead: Saxon House, 1977), 175.

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some pains to argue for the durability of his neo-traditional model: "Because these patterns are rooted in a specific modern type of economic and political organization, and not simply in a low level of economic development, there is no reason to assume that they will gradually disappear as China modernizes in other respects" (p. 189).

Vivienne Shue, on the other hand, characterizes contemporary China as in the throes of "profound structural and normative change" (p. 149). The Deng Xiaoping reformers, she argues, "have employed but a single weapon—rapid expansion of the role of market relations in economy, society and the very work of local government. With this one weapon they have shaken both the organizational skeleton of the honeycomb polity and the morality of localism that both legitimized and stiffened it" (p. 148). Shue explains this transformation, interestingly enough, by reference to "forces that run many leagues deep in Chinese history" (p. 128). Deng's coalition, she notes, is carrying out a drive toward modernization—toward a strong and prosperous state—that has been the dream of Chinese leaders since the mid-nineteenth century.

If change and history are underplayed in Walder's approach, they occupy center stage in Shue's: for her, China is now undergoing dramatic change—change that, however, can only be understood as part of a history that long predates the socialist system. Shue offers a friendly criticism of structuralist models of Chinese society and politics: "Making structure so central to the research effort imparted a certain stasis to the analysis, a certain inability to perceive the larger, protean process of history in which these structures were suspended" (p. 21). Touché! Yet, unfortunately, the style of historical analysis Shue practices is more history by *analogy* than history as *process*. She draws our attention to the similarities between late Qing statesmen and contemporary reformers, between local gentry and rural cadres, between the "little tradition" of imperial China and the "cellularity" of the socialist period. Analogy does not establish genuine historical continuity, however. (As Walder convincingly demonstrates in the case of Chinese factories, apparent similarities between the foremen-contractors of preliberation days and shop officials today belie some fundamental differences.)

If students of Chinese politics are to develop state-society models fully capable of handling change (a project that has to date eluded most general theorists in the comparative politics field), we will have to roll up our sleeves and engage in some serious historical research of our own.[11] We

[11] Andrew J. Nathan's *Chinese Democracy* (Berkeley: University of California Press, 1985) offers a good illustration of the insights to be gained by a historically grounded study of Chinese politics that crosses the 1949 divide.

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must be willing to sift through archives in patient pursuit of the personal, institutional, and cultural continuities and discontinuities between the contemporary Chinese polity and its past. We will need to look more carefully at the Republican period (1911-1949) as a possible bridge between imperial and socialist patterns. And we will have to exploit newly available sources in China to decipher the contours of temporal and spatial variation under socialism.

Heir to the longest enduring political system in history, contemporary China offers an excellent laboratory for the study of state-society relations. The works by Walder and Shue demonstrate how fruitful such China-based studies can be. Still ahead, however, lies the important task of integrating contemporary and historical lines of inquiry. It is surely no accident that so many of the recent pathbreakers in social science theory—Barrington Moore, Immanuel Wallerstein, Charles Tilly, Theda Skocpol—proceed from the perspective of *historical* sociology. To paraphrase Tilly, only when "history meets politics" will we be in a position to take full advantage of our research laboratory to develop a convincing theory of political change.

Such a project is essential, not simply for the academic pleasure of connecting the present to its past, but also for the pressing goal of connecting both past and present to their future. What lies ahead on the political horizon for China and those societies that resemble it? From Walder, we would expect only limited change—variations on a generic communist theme. From Shue, for whom the current market reforms herald a qualitative break with both communist and pre-communist patterns, we are led to anticipate the end of "peasant" society and the advent of statism. But one wonders if a third scenario, more closely linked to the Chinese past, is not also worth considering.

Although Shue suggests that Maoist China perpetuated traditional patterns by virtue of its continuing "peasantness," one might well argue that the cellularity and localism of the Maoist era ran directly counter to integrative trends evident in the Chinese empire for centuries. G. William Skinner, from whom Shue draws considerable inspiration, has been a tireless proponent of the view that imperial China was characterized above all by *linkages* among cities as well as between city and countryside. Recent research also calls into question Shue's assumption about a "historically great gap in China between the high culture of the center and the folk culture of the periphery" (p. 65). The emerging consensus holds rather that "Chinese culture . . . was both extremely diverse and highly integrated. . . . The intellectual and spiritual world of the scholar or official in late imperial times was not utterly alien to the peasant or laborer,

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nor was the reverse true."[12] Late imperial China was in some respects a remarkably cohesive society in which markets flourished and the state's cultural presence was unusually pronounced—a situation that apparently intensified during the Republican interregnum.[13] Thus contemporary reforms that encourage market relations and "serve state-strengthening, even statist, ends" (Shue, p. 6) may well be an extension, rather than a reversal, of deeply rooted historical processes.

However we may hypothesize about the future direction of state-society relations in China, Walder and Shue have done us an immense service by opening the door to a debate with serious implications for the fields of both Chinese and comparative politics. Let us hope that others in the "third generation" will be persuaded to walk through that door with the theoretical sensitivity and historical sensibility required to push forward this important inquiry.

[12] David Johnson, Andrew J. Nathan, and Evelyn S. Rawski, eds., *Popular Culture in Late Imperial China* (Berkeley: University of California Press, 1985), xi, xiii.

[13] Prasenjit Duara, *Culture, Power and the State: Rural Society in North China, 1900-1942* (Stanford: Stanford University Press, 1988).

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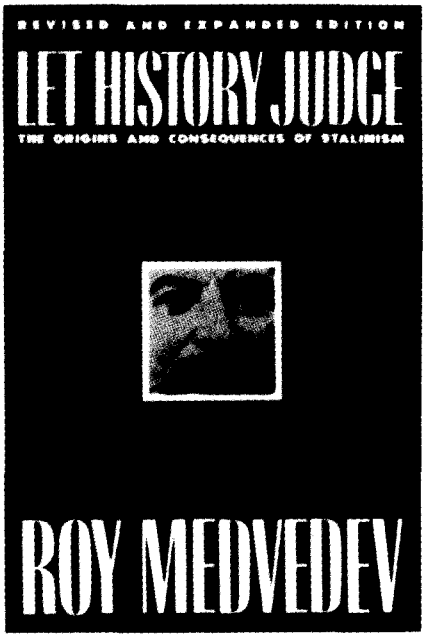

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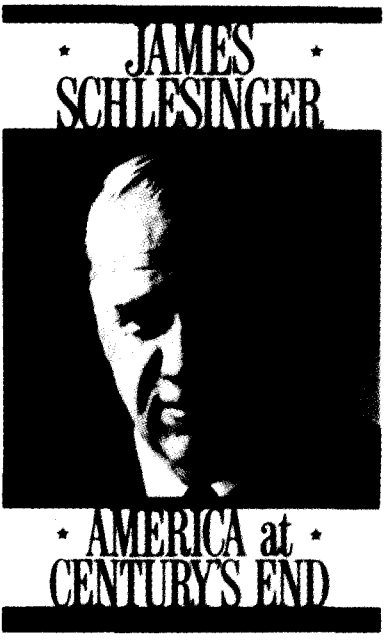

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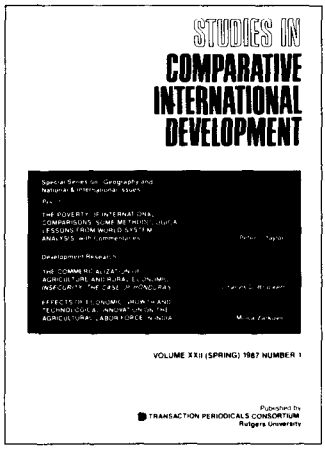

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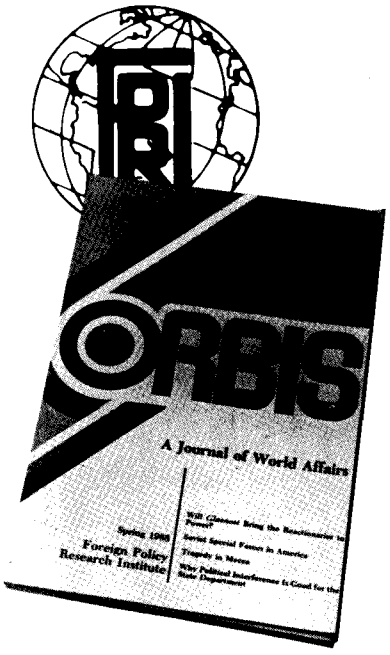

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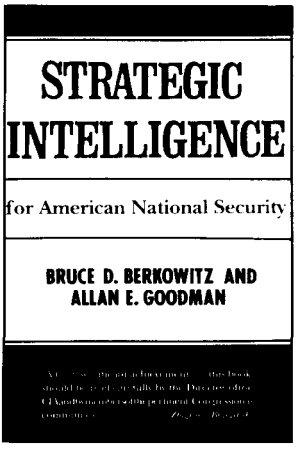

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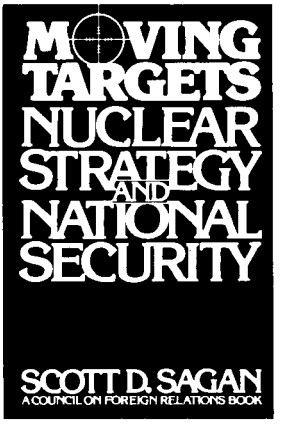

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